The Builder.

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New Church of St. Mark, Plumstead: with Institute, Parish Hall and Parsonage.—Mr. Charles H. M. Mileham, Architect ..... *Double Page Ink-Photo.*

Warwick Chantry, Tewkesbury Abbey.—Measured and Drawn by Mr. Kotaro Sakurai ..... *Double Page and two Single Page Photo-Litho.*

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Burlington House and the New Gallery.

IN arranging an exhibition of the works of "British artists deceased since 1850," the Royal Academy have made one of the most interesting collections of pictures which could well have been got together. Many of the principal works exhibited are near enough to the present day to be still tolerably fresh in the memory of many of us, and yet have not been publicly exhibited for so long that a sight of them again is welcome. Other really fine works there are belonging to names of painters who never made that degree of impression on the public mind which their talents would have justified; painters whose style and whose class of subject made little appeal to the popular taste, whose names are almost forgotten now except by a few persons, but whose re-exhibited works show how little they deserve to be forgotten. Among these is Paul Falconer Poole, the painter of poetic landscapes in which more is meant than meets the eye; landscapes stimulating to the imagination, suggesting something beyond mere landscape-painting. He is represented here by two of his best pictures: the one now called "The Seventh Day of the Decameron," but which we first knew, many years ago, under the title "The Song of Philomena on the Shores of the Beautiful Lake," is a kind of dream landscape, in which the figures are not Boccaccio's—they have not the costume or the manner of his period, but are idealised into harmony with the landscape. The other and more powerful work, "A Lion in the Path," hangs exactly where it was hung, we know not how many years ago, when it was first exhibited at the annual Academy; a lurid and threatening landscape in the foreground of which is a man pausing at the sight of a lion in the shadow of the trees before him; after Poole's manner, the landscape seems to express the terror of the incident. It is a pity that Poole's perhaps still finer work, "The Dragon's Cave," we believe the last which he exhibited at the Academy, was not added to the collection. Another half-forgotten name which is brought up again here is that of Sir William Boxall, most refined of portrait-painters of his day, so sensitive and so hard to please that he could hardly endure the sight of his own works after they were completed; yet even he, his own severest critic, might have been satisfied with the dignity and refinement of style realised in his portrait of the late Mr. Frederick Huth.

A few pictures there are which serve to recall reputations that are *passé;* it was kind to include them, perhaps, but their appeal to us is in vain now. We will not altogether class Sir John Gilbert among these; there is always a vigour of action and power of composition in his productions which make them effective in spite of their sameness of style and superficiality of conception; but surely ten of his pictures is a larger proportion than was required on an occasion of this kind. Perhaps they are more easy of acquirement than some others, and have not been lent so much. His large picture of Henry and Wolsey, "Ego et Rex Meus," belonging to the Corporation of London, is a fine work, but the head of the Cardinal does not give the idea of the dangerous and subtle character of the actual man. In some other cases we are surprised to find how much more finely and learnedly this or that man painted than we have been accustomed to think. C. R. Leslie, for instance, it has become the fashion to think of as a man over-rated in his day; perhaps he was in some respects; but look at the foreshortened head of the infant in his small picture called "Mother and Child" in Gallery I.; it is a masterpiece of delicate and conscientious execution; indeed, in the present day of "broad" effects it is rarely that we see a foreshortened head painted with such care as this; it is a bit of work to which students should give their attention.

Where the earlier painters of the half-century most especially failed (and one or two of the later ones also) was in colour. Poor E. M. Ward, who was really a historical painter of much thought and dramatic power, and who was so harshly treated by the critics in his latter days that it drove him to suicide, was one of the prominent failures in this respect; Maclise was another; indeed in both cases it was not so much failure as a totally ignoring of the quality of colour. Ward's large work, "The Last Sleep of Argyll," however, is a really pathetic and expressive picture, and one we are glad to see again. Landseer, again, seems to have been almost without the sense of colour; in his large "Stag at Bay" the animal is magnificent in force and realism, but the tone of the whole picture is painfully cold and dreary; so also with his clever portrait of himself under the title "The Connoisseurs."

In landscape there are works in the collection which serve to remind us that there was in the earlier part of the half-century something like a great style in English landscape-painting; a quality which cannot be said to exist now. There was Turner of course—a school in himself; but we see the quality in some of the smaller works in this exhibition, such as David Cox's "Going to the Plough," and Linnell's "Landscape," both in Gallery II. Turner's "Venice," one of his later works, is exceedingly like a fulfilment in painting of Shelley's description or poetic paraphrase of Venice in his "Lines written among the Euganean Hills"; the whole thing a kind of uncertain vision of light and colour, in which we cannot tell very well where the water and reflections end and the buildings begin. It is curious, though, as an example of Turner's certainty of touch, how the apparently formless loading of white pigment on domes and other features in strong light, results in conveying the impression of architectural solidity and of the glitter of architectural detail; curious, too, to compare with such a picture Holland's solid and powerfully-

built but comparatively matter-of-fact pictures of Venetian architecture, of which there are two or three in the collection.

If we have lost for the present the sense of great style in landscape painting, however, we may be consoled by thinking of what we have gained in sea-painting. It is almost amusing (or pathetic) to look at Cooke's "Goodwin Sands" in Gallery III., and to think that the author of this was once one of our leading sea-painters. We have got beyond that, at all events. It must be confessed, too, that Turner's sea, in "The Minotaur" is just as bad, so far as any resemblance to sea goes; it is only less commonplace because it does not attempt a stage realism, but is an idealised sea, evolved from Turner's inner consciousness; whereas Cooke's is really a kind of stage imitation of sea. And yet Cooke, we believe, lived much on the sea and professed to paint what he saw! Was it that people really saw differently in those days, or was it that the power of representing sea was not developed?

Mason is largely represented; indeed, most of his best works are here—the "Harvest Moon," the "Evening Hymn," the "Pastoral Symphony," &c. It is interesting to see in the first room the "Harvest Moon" hung opposite to Walker's "Bathers"; two very opposite treatments of rustic life, which may be called the real and the ideal, though in fact Walker's centre group is somewhat idealised; he could hardly have found two such Greek-like figures among lower-class youths in a riverside bathing party, any more than he would have found among real rustics such a *spirituel* figure as that which leans over the plough-tail, in the grand picture of "Ploughing" (which is also here), or such a figure of a labourer as that in front of "The Old Gate." Walker intended his figures to be typical of the best qualities of a class, or his instinct led him to paint them so (for he never theorised about his art); but Mason's "Harvest Moon" personages are mere creatures of a rural romance, and on the whole less interesting, on that account, than Walker's more human though somewhat idealised types.

Turner's "Conway Castle" reminds us of another change in landscape-painting, and that if we have lost the great style we have gained immensely in what is called "local colour," a matter in which Turner will often hardly bear criticism from the modern point of view; see the colour of his shore and foreground generally in this picture. Possibly it is in part through too much attention to local colour that modern English landscape-painters have lost that breadth of style which characterised Turner, Constable, Muller, Crome, and others of past days. Among the most beautiful landscapes in the exhibition are Alfred Hunt's "A Mountain Joyous with Leaves and Streams," and his exquisite "Time and Tide," a view of sea and sunset, one of the most perfect of modern landscapes in conveying the feeling of a scene. We have Millais' fine landscape-painting, too "Winter Fuel," not poetical certainly, but masterly in its way. Millais is not largely represented in proportion to his importance, because it was desired not to repeat pictures which had been already recently seen in the collective exhibition of his works. The most striking picture by him is one which we do not remember, a three-quarter length of a brunette little girl in a yellow dress, under the title "Pensive"; a beautiful piece of colour. Among other works of special interest is Albert Moore's "The Quartet," originally called "A painter's tribute to the Art of Music," and one of the most perfect works he ever painted much superior in colour and vigour of style to the larger and more elaborate but sentimental "Summer Night." Mrs. H. T. Wells is represented by several works, the only one of which that is at all striking is the sad little idyll, "No Joy the Blowing Season Gives," which is fine and pathetic. Owners of pictures by George Lewis have lent them liberally, and those who delight in fine painting of architectural detail and decorative accessories could find nothing better of the kind than in "The Commentator on the Koran."

But why, may we ask, in giving a representative exhibition of works by British artists who have died within the half-century, were the sculptors entirely omitted? Was it that sculpture is not popular, or have the Academicians a lurking feeling that British sculpture, till within the last twenty years, was better left without illustration? At all events in that case the title of the exhibition should have been "British Painters," not "British Artists." But it seems to be an *idée fixe* with the Royal Academy that "art" means "painting."

The New Gallery shows a collective exhibition of the works of Sir William Richmond, who certainly has a claim to this dangerous honour, a modern ordeal from which Millais alone, to our thinking, came out leaving in the minds of the spectators an even higher opinion of his powers than they had gained from the study of his works in a more isolated manner. Sir W. Richmond, however, may be glad of an opportunity to show how varied his work has been—more varied than is perhaps generally realised; for we have here classic and legendary paintings, portraits, decorative work, and a number of small but very interesting landscape sketches and studies. Some of the classical pictures no doubt owe something of their inspiration both to Leighton and to Burne-Jones. Sir W. Richmond's own special treatment of classic legend is probably best illustrated in such works as "The Bath of Venus" in the West Gallery and the "Birth of Venus" in the North Gallery; pictures with a special scheme of colour, and in which the nude figure is treated in an abstract, severe, and half-decorative manner. "Hermes" and "Icarus" are however, admirable conceptions, though they make us think of Leighton, and would hardly have been painted but for the pre-existence of that artist. Among the numerous portraits are some which are admirable just as characteristic likenesses—those of Browning and Mr. Andrew Lang for instance; others which have a remarkable character of sumptuous magnificence, such as that of Lady Bell, seated with one arm out in a grand attitude recalling Reynolds's Mrs. Siddons; and that of the Earl of Pembroke, a typical portrait for a nobleman with a long line of ancestry. The large cartoons for the mosaic at St. Paul's cannot be very fairly estimated in these comparatively limited spaces; they are too near the eye for their intended effect at the proper distance to be realised. The small studies and sketches in the Balcony, for St. Paul's decoration and for various pictures, are most interesting; and we would also specially mention the drawing for the treatment of one of the St. Paul's windows, in the South Gallery. Among the sketches of buildings and scenery are many architectural sketches of great interest, and giving admirably the character of the architecture. Everywhere there is to be seen complete command of draughtsmanship, whether in highly-finished portraits and groups or in slight sketches of figures and landscape. The whole collection is a remarkable testimony not only to the versatility but to the conscientious industry of the artist. Such a life's work goeth not forth but by labour and devotion.

THE HOLBORN TO STRAND IMPROVEMENT SCHEME.

BY MR. J. S. GIBSON, A.R.I.B.A.

AS it may be possible to influence the London County Council to take a worthy view of the greatest architectural scheme that is likely to come before it during our lifetime, I would briefly review the action taken by the Council, and that of the architects invited to submit designs for the southern end of the new street.

It is generally admitted that the lines of the new street, its width and gradients, are satisfactory, and the members of the Royal Institute of British Architects may be congratulated on their suggestion for the southern crescent end having been adopted, and this manifest improvement on the lines laid down by the County Council is the first fruit of expert advice.

The next step towards obtaining a street which in architectural design would be a credit to the town, was undoubtedly to obtain designs, but here the County Council failed most completely to rise to the occasion, and that for two reasons. The first was that there was no decision on their part as to the nature of the buildings desired for the land; beyond the re-housing of a newspaper, two theatres and a restaurant, which occupy a small proportion of the ground, all else was vague and unsatisfactory. It would have been a comparatively easy thing to lay down the general lines of the accommodation required for the business premises which it was manifest to all would ultimately occupy the land. The County Council have had for years the cost of this improvement before them; these estimates must be based on a return from property the nature of which is known to their valuer, and if these figures are not so based they are misleading. Having all this information before them, the Council acted exceedingly unwisely in not setting forth in general terms the actual conditions which will govern the design of the buildings likely to be erected to meet their financial estimates.

In reference to the suggested County Hall to be shown in the centre part of the "Island" site, I do not overstate the case when I say that the prohibitive costliness of the land for this purpose must have been evident to the Council for many months previous to the invitation to submit designs, and consequently its inclusion in the invitation was certain to render the designs for a large part of the land absolutely useless. That a responsible public body should wantonly waste the time of architects in this manner seems almost incredible.

The first reason of the County Council's failure may be summarised thus: that, having all the estimates of expenditure and return before them, they failed to acquaint the architects with the information or to decide on the class of property required, and so rendered the competition abortive.

The second reason for the Council's failure was their treatment of the architects selected to compete. The intention was to ask "eight leading architects" to submit designs for the frontages, and for these designs a sum of 150*l.* each (subsequently increased to 250*l.* each) was to be payment in full, and no guarantee would be given that any of the architects would be employed in the execution of his design.

It was intended that four architects should be nominated by the Royal Institute of British Architects and four by the County Council.

Before any nominations were made, a deputation from the Royal Institute waited on the County Council and pointed out the unsatisfactory nature of the conditions, and suggested others which would commend themselves to all architects, but with no appreciable result.

In consequence of the refusal of the County Council to amend their conditions, it was found that two out of the four architects nominated by the Royal Institute declined to take part in the competition, and a request from the County Council for further nominations was met with a refusal on the part of the Royal Institute owing to the unsatisfactory conditions. The result was that six architects were nominated by the County Council and took part in the competition, besides two of those nominated by the Royal Institute.

No doubt the gentlemen selected struggled with the unsatisfactory conditions governing the designs to the best of their abilities. The attitude of the County Council in refusing to give any guarantee that the architects would be employed in the execution of their designs was fatal to their chance of obtaining good designs, and is a typical instance of how architecture is regarded by the average man, cultured or otherwise. It shows the inability to distinguish between a design on paper and the actual embodiment of that design in the ordinary building materials. Now, however much architects be tempted to become designers on paper, it is nevertheless a fact that the erection of our designs is the sole justification of our existence as architects.

But it was apparently the idea of the County Council that they could get a number of sketch designs by leading architects, and that afterwards any person of average intelligence could carry these into execution. This would probably be paralleled by their asking Mr. G. F. Watts or Mr. J. S. Sargent for a sketch design for a fresco to a small scale, and then handing the sketch over to Mr. Cimabue Brown from which to paint the fresco itself. I could imagine a public body doing such a thing, but I should find it impossible to credit it with any business capacity or artistic appreciation. The business of architects is to produce buildings, and until all public bodies or private persons are aware of that fact there will not be proper relations established between the two parties.

Having pointed out the causes of the failure of the competition, I would also point out that the obvious course for the Council to pursue, to enable them to obtain designs from which a street might be erected that would be a thing of beauty, is to institute a new competition, in which the conditions will be the reverse of those embodied in the former one. The objections to such a course are, that it is impossible to define conditions regulating the design of the buildings until the nature of the businesses to be housed is known. This contention is, however, fallacious, in view of the fact that the majority of these premises are for ordinary business shops and flats or offices, and that in very rare instances special requirements will necessitate special treatment. It has already been pointed out to the County Council how the architect for the street frontages could be employed by the lessees of the land without extra charge to them, and any other architect employed for the buildings behind the frontage if the lessees so desire.

In proof of my contention that these buildings in the majority of cases will not require special treatment, I may point to the cases of Shaftesbury-avenue and Charing Cross-road, where the vacant land as a rule was bought up by speculators, who had no intention to do other than make a profit out of it. If a purchaser or tenant did not come along within a moderate time, the speculator proceeded to erect the usual shops and flats over without any regard to any object other than his prospective profit. The result is such a deplorable exhibition of vulgarity as make those streets a travesty of architecture, and unless some strong line of action is determined in the case of the new street it is probable the results in the latter case will be worse than the former, owing to the greater scale of the street. I am firmly convinced that if the County Council insisted on the employment of the architect for the new street frontages whose design they may select, the economy to the direct lessees of the land would be considerable, and the architectural character of the buildings would assuredly be improved thereby. That something definite must be done very soon is evidenced by the fact that the houses are now being demolished, and the rehousing of the theatres and *Morning Post*, must be a matter of considerable expedition.

I have seen it stated in several newspapers that the Gaiety Theatre is to be rebuilt from the plans and designs of Messrs. Runtz & Co. If this means that this part of the "Island" site is to be built according to the design submitted by Mr. Ernest Runtz in the recent competition, it will interfere with the unity of the general scheme, and stand in the way of the opportunity to carry through a great architectural design for the new street. The question is of such moment to London that I hope the County Council will take the best architectural advice it can obtain before giving its sanction to the design of any buildings on this land, and until it is firmly convinced of a consistent line of action which will ensure an architectural treatment of the new street of which we may all be proud.

J. S. G.

NOTES.

The Port of London. IT is sincerely to be hoped that the Royal Commission now engaged in a consideration of the various questions connected with the Port of London may evolve some satisfactory scheme for ameliorating the conditions at present existing. We are glad to notice that the County Purposes Committee of the Corporation has lately put forward some suggestions for the future management of the port. The committee proposes that a public trust should be constituted, including representatives of the Admiralty, the Board of Trade, the Customs, the Trinity House, Lloyd's, the chief railway companies, the Corporation, and the London County Council. This very comprehensive body, it is suggested, should be armed with the fullest possible powers for making the port in every way attractive to the shipping industry. No doubt the Royal Commission will be prepared to show in what manner this desirable aim may be attained, and if the trust were instituted without loss of time after the report of the Commission has been presented, there would be reason for believing that the utterly inadequate accommodation and antiquated methods now prevailing might speedily give place to facilities more worthy of the metropolis, and of the century in which we live.

The Admiralty Building. IT is understood that the third wing of the Admiralty building, the one facing to the Horse Guards' Parade, is to be commenced almost immediately, and that it is to be more ornate than the other two, and to have sculptural decoration. It is to be hoped that it will at all events be architecturally more worthy of the site and of the purpose of the building than the portions already erected. We should have thought the best policy would have been to start again *de novo*, get a really fine design made and carried out for the new wing, and then pull down the two others and rebuild them as a continuation of the new design.

The London Bridge Lift Accident. IN a "Note" on August 4 last year we referred to the mishap, on June 28, 1900, to one of the lifts at the London Bridge Station of the City and South London Railway. A recently issued Board of Trade Report confirms the details which we then stated. The primary cause of the accident was the failure of a shaft that was originally believed by the makers, and we presume by the Board of Trade also, to be of ample diameter. The condition of absolute infallibility with regard to purely structural matters is, of course, practically unattainable, but the public is entitled to demand reasonable safeguards against injury in the event of breakage, whether avoidable or unavoidable. In the present case, we find the lift gear included a safety apparatus, and buffers were fitted at the bottom of the lift well, but the safety gear had been disconnected while some adjustments were being effected. Under these circumstances it is simply astounding that the lift should have been used. But a further reason for astonishment is afforded by the fact that the workmen engaged in adjusting the balance of the apparatus had placed some heavy weights in an insecure position just above the fragile roof of the cage. When the shaft broke, the cage descended at an abnormal speed, and although the friction of the ropes prevented the attainment of a velocity likely to endanger the safety of the occupants, the sudden arrest of the cage at the bottom

of the well was sufficient to shake the weights from their temporary resting place, and thus to injure the lift attendant and two out of three passengers present. There is one point in connexion with this particular case to which the attention of all lift makers should be specially directed, namely:—That even if the safety apparatus had been in gear, it would not have been sprung because the ropes neither broke nor slackened. As most of the safety gears used in this country cannot come into operation unless a rope breaks or slackens, it is imperative that some improvement should be introduced without delay. One plan suggested is to add a rope passing directly from the safety clutches over the pulley at the top to the counterweight. This will bring the clutches into operation as soon as any alteration takes place in the distance between the cage and the counterweight, measuring along the course of this auxiliary rope. In our opinion, a much safer device is that in which the release of the safety gear is directly controlled by the actual velocity of the cage. Under this system any abnormal rate of speed, whatever may be the originating cause, at once results in the application of the safety clutches.

Electric Railways and Electrolysis.

IN a letter in Monday's *Times* Mr. Hunter points out the dangers likely to arise from electrolysis, owing to leakage of current from the rails of the electric tramways that are being constructed all over the country. He suggests that no injustice would be caused by making and enforcing proper regulations as to return mains, and that it would be advisable to appoint a Royal Commission to consider the subject. Now there are many indications that as tramway and electric lighting systems are getting larger and larger, the stray currents from them are increasing in proportion, and that the present Board of Trade rules about leakage will have to be made even more stringent in the immediate future. A striking instance of this was mentioned by Mr. Parshall at the recent Board of Trade conference to discuss methods of preventing the working of the electric tramway between Kew and Brentford from affecting the magnetograph records at the Observatory. He said that at the present time, although the tramways were not yet working, there was sometimes a difference of pressure between the ends of the tramway rails of 0·8 of a volt. As the resistance of the rails is probably less than the hundredth of an ohm per mile, it will be seen that at certain times of the day there are several amperes of current flowing along the rails. This current must be due to leakage from some of the neighbouring electric railways, or possibly from a direct current electric lighting network. This shows that already the currents flowing in some of the water and gas mains in London are appreciable, and a keen look out should be kept for any signs of electrolytic corrosion. The Board of Trade regulation for the difference of pressure between the two ends of a rail in an electric tramway is that it must not be greater than seven volts. Hence there is not much margin for preventing leakage by making this rule more stringent. Sooner or later a remedy will have to be found, as it is evident that the country desires electric tramways. Several have been already suggested, such as keeping the pipes negative to the rail, &c, or using an insulated return. Making an insulated return compulsory in country districts would be a pity, however, as it would make the cost practically prohibitive.

Stoves in France.

A DEMOCRATIC people is sometimes the most arbitrary, and thus it happens that the French people patiently submit to official acts which would not be tolerated in England. Of late, in Paris, numerous accidents have occurred from persons being suffocated through stoves being imperfectly connected with the chimney, or it may be not being connected at all. An order has therefore been issued by which inspectors are appointed for the purpose of seeing that the stoves of Paris are properly fixed and their fumes carried away. They have full power to enter any house for this purpose. It may be desirable that there should be this form of inspection, but can any one imagine the letters which would be written to the daily paper were smoke inspectors appointed in England with similar powers? It is to this autocratic attitude of the French officials that many structural reforms are also due. It is to be observed in connexion with this order that it seems to show that stoves, however desirable as heating apparatus, require more careful attention than patentees and salesmen will often allow. That stoves are not sufficiently used in England—if it is desired to economise fuel—is certain; at the same time, they have drawbacks which do not belong to the agreeable, if often wasteful, open fireplace.

Corrosion of Iron and Steel.

SOME tests on the corrosion of iron and steel have lately been considered by the "Engineers' Society of Western Pennsylvania," and they were undertaken with the object of ascertaining what influence the presence of copper might have in arresting corrosion. In the first set of tests the following percentages of loss from atmospheric corrosion were found:—Bessemer steel, 1·85; Bessemer steel, with 0·263 copper, 0·74. Other specimens in this series showed the percentage of loss to be inversely proportional to the amount of copper contained in the metal. In the second set of tests, the percentages of loss were:—Bessemer steel, 1·65; wrought iron (mean), 0·81; wrought iron, with 0·393 copper, 0·53. The presence of copper in the small proportions indicated above cannot be thought likely to exercise any prejudicial effect upon the physical properties of either iron or steel, and it might readily be introduced during smelting by the employment of ore containing copper. Retardation of corrosion also follows the addition of nickel, a result evidenced by investigations, of which an account was given at the Congress of the International Association for Testing Materials of Construction. In small proportions, nickel has the further property of increasing both the elastic limit and the tensile strength of steel.

Traffic Problems in New York.

ALTHOUGH American engineers have been allowed to do pretty much as they liked in the past, it is becoming more and more evident every year that their operations will ultimately have to be comformable with regulations very much akin to those existing in our own country. The necessity for such rules is nowhere more apparent than in connexion with traffic facilities in great cities. City railroads and tramways have hitherto, in American cities, been carried in a cheerfully promiscuous manner along the public thoroughfares or erected on stilts, as it were, above them, the chief idea being to deal with a difficulty in the way that seemed for the moment to be the most practical and convenient. In spite of the freedom permitted to engineers, it is clear that means of rapid transit are still wanted in many American cities, and notably in New York The view that public thoroughfares present a strictly inelastic area has prevailed for many years in London. It has successively extended to Glasgow, Paris, Boston, and New York. In the last-named city, an interesting example of an underground railway, known as the "Rapid Transit Tunnel," is now in course of construction. A large proportion of the subway is being made on the cut-and-cover method, and on sections of the line where this class of work is adopted little trouble in respect of actual excavation is anticipated, but somewhat complicated problems are likely to arise when material has to be removed from below various street railway tracks. Where tunnels are driven, they will generally lie at a considerable depth, particularly below the elevated district known as Washington Heights. For a distance of over two miles, between 150th-street and 195th-street, the average depth will be 120 ft., and two stations in this section will be 100 ft. and 120 ft. respectively below the street level. Like the Paris Metropolitan Railway, the new subway will contain both the up and the down lines, and electricity will, of course, constitute the motive power. Very satisfactory progress has been made with this undertaking, which is clearly a step in the right direction.

The Walls of Avignon.

THE credit which is due to France for the care which is given to questions concerning the erection of modern buildings can scarcely be extended to the buildings of historical interest. The French spirit is essentially logical, it is not one which values the past, hence it results that old structures are demolished not only without hesitation, but sometimes almost prematurely. There is no more striking relic of mediæval France than the wall which still surrounds Avignon, with its towers and its gateways. But the ancient gateway, which faced the modern suspension bridge and so formed a main entrance to the town, has been pulled down. It was said to be in a very weak state, but be that as it may, no attempt has been made to preserve it, and a great gap has been made in the wall. Restorations, or renovations after the antique, have to be carefully carried out, but we are inclined to think that if the old gateway could not longer have been preserved it might have been rebuilt, thus keeping up the continuity of the walls. These walls themselves are not too well looked after, and seem to be decaying in many places, and to need small repairs, and the shanties which are placed in various parts against their external sides should be pulled down. Boulevards may be built, but the walls of Avignon can never be replaced; and we wish we could think that those who are responsible for their preservation realise

to the full the trust which they hold, not for France only, but for the whole world.

Alfred-place, Bloomsbury.

IN a "Note" of January 20, last year, we commented upon the scheme propounded by the Corporation of London for rebuilding upon their "John Carpenter" estate between Gower-street and Tottenham Court-road. The leases of nearly all of the property will expire on Lady Day next year. The City Lands Committee have now prepared plans, which the Corporation adopt, and which, as we apprehended at the time, will quite destroy the architectural character of the streets on that estate, as laid out by George Dance, R.A., for the Corporation in the interval 1790-1814. The approved plans provide for the demolition of the North and South crescents, at the two ends of Alfred-place; for the extension of Alfred-place towards the north as far as Alfred-mews, and towards the south across Bayley-street, and so behind Bedford-square to the lately widened thoroughfare from Caroline-street into Tottenham Court-road; and for the replacement of Alfred-mews with a new street, to be 50 ft. in width. In the report which accompanies the plans the City Lands Committee express their opinion that Dance's planning of the two crescents, with cross thoroughfares (Chenies and Store streets), at the open ends of the wide road upon the axis between their centres is quite out of date, and is to be deprecated for many reasons. We should like to know what these reasons are.

Godolphin School, Hammersmith.

IT is stated that the trustees have finally closed this school, in pursuance of an order to that intent made by the Charity Commissioners, and that the site will be disposed of, on behalf of the trust, for purposes of the proposed West London Polytechnic Institute. The school endowment was established under an Act of Parliament passed for administering the estate of Sir William Godolphin, our Ambassador to Spain, *temp.* Charles II., whose testamentary dispositions were in that respect regulated by two schemes in Chancery in 1852 and 1859. The school, remodelled accordingly as a grammar school, was opened in August, 1862, in the present buildings erected upon a site of nearly four acres, adjoining St. John's Church (Butterfield, 1860), in Dartmouth-road, after C. H. Cooke's plans and designs, which are described and illustrated in our columns of August 10, 1861. The buildings comprise a schoolroom for 200 boys, class-rooms, dining-hall, dormitories for forty boarders, and headmaster's residence.

Kingsgate-street Chapel.

ON December 16 the final services were held in this chapel, and after a subsequent valedictory meeting of the congregation the chapel has been finally closed. The sites of the building and three adjoining houses have been taken for the local street improvements about to be carried out by the London County Council, who, we gather, will allot, in compensation, a fresh site on the line of the new road, High Holborn to the Strand, for headquarters with a church-house of the Baptist Union of Great Britain and Ireland. The chapel in Kingsgate-street was originally founded in 1735; the present building was erected in 1855-6, after C. C. Searle's plans and designs.

Society of Oil Painters.

THIS winter's exhibition of the Society of Oil Painters, at the Dudley Gallery, contains a good many interesting works, among them the last production of the late Mr. Wimperis, "Stanpit Common" (112), a large work showing this artist's usual fine qualities as a water-colour artist of the old school. The new President, Mr. Frank Walton, is represented by a fine and carefully-finished landscape, "Holmbury Gorse" (276), not, it must be admitted, in the highest style of water-colour art, but a very charming work of its type; in regard to style, we prefer the smaller drawing, "Upfolds" (278). Among the pictures in which figures form a prominent element is Mr. Fulleylove's "Montpellier" (262), a kind of restoration of the terrace with eighteenth-century figures; possibly the young man in the foreground is meant for Rousseau, who tells us in his "Confessions" how he was warned against the fascinations of the Montpellier beauties. Mr. Dollman's "Fox and Pheasant" (256) is a clever picture of a hunting man and a shooting man, in appropriate costumes, apparently discussing the merits of their respective sports. In a higher vein is Mr. Wardle's "The Flute of Pan" (209), where panthers and poppies combine to make a fine piece of imaginative colouring. Mr. F. D. Millet's "The Fireside" (165) is an interior with a figure painted in his best style. Otherwise the figure pictures are not generally the principal interest in the exhibition. Among landscapes which may be singled out as of special interest are M. Fantin-Latour's "La Nuit" (169); Mr. Austen Brown's "Burning Weeds" (247); Mr. Julius Olsson's sea pictures, especially "Study of Rough Sea" (40); Mr. John White's "Evening at the Well" (70), a village street scene in a quiet evening light; Mr. R. W. Allan's "Honfleur Fishing-Boats" (150); Mr. Thorne Waite's "Evening Light" (308), and Mr. Alfred Hartley's "Water Nymphs" (468), which takes its name from some small figures of bathers, which add a little incident to a beautifully composed landscape.

Professor Aitchison's Lectures.

PROFESSOR AITCHISON'S Lectures on Architecture at the Royal Academy, which will commence on the 28th, deal entirely with the subject of St. Peter's. A set of lectures from Professor Aitchison on such a subject is sure to be of exceptional interest.

The Preservation of Stonehenge.

A CORRESPONDENT signing himself "Engineer" makes an excellent proposal in the *Times* for preserving the stones at Stonehenge from being any further overturned by storm. The object of course is to effect this without destroying the ancient appearance of the monument. "Engineer" proposes to cut a trench of about a foot wide against one stone, excavated to the level of the bottom of the stone, and carrying it outwards to a length of 6 ft. or so at right angles with the side of the stone. Then fill this trench with concrete, and make a similar one alongside the first, and so on until the foot of the stone is bedded in a mass of concrete; the turf to be then replaced over the concrete, so that no sign of the work would appear. We would suggest, however, that an improvement on "Engineer's" scheme would be to have these trenches only at intervals, or two against each of the larger sides and one against each of the shorter sides of the stone; these would act as buttresses, as effectually as the complete mass of concrete, and would disturb the ground less and require less labour and material.

Landscape Exhibition, Dudley Gallery.

THE small and select exhibition of a few landscape-painters at the Dudley Gallery—Messrs. R. W. Allan, Aumonier, J. S. Hill, A. D. Peppercorn, Leslie Thomson, and E. A. Waterlow—again comes round as a pleasant event in the artistic world; an exhibition in which we can concentrate attention on a small number of thoughtful landscape-paintings, undistracted by the crowd of an ordinary multifarious exhibition. Mr. Waterlow, who comes first in the order of hanging, with a less distinctive individuality than one or two others of the group, is always complete and satisfying in his treatment of landscape, more especially in the largest work exhibited here, "A Hill Farm, Provence," a landscape quite perfect in style. Of the others, "A Mill on the Ouse" (a mill we know well), and "Walberswick Church," are the most interesting. Mr. Allan shows his most typical qualities in "Cullen Harbour," but surprises us by a grand and bold view of "A Gate of the Sea"; a sea-shore gorge between two vast cliffs, at the end of which the waves are just discerned breaking on the beach. The "Falls of Clyde" is rather heavy; "Portknockie" is a fine little harbour scene. Mr. Aumonier's largest picture, "A Cambridgeshire Farm," looks a little cold and ragged; the most taking of his pictures are "Evening" and "The Strayed Flock." Mr. Leslie Thomson's "Peaceful Summer" has a broad calm about it which quite answers to the title; his most powerful work is "After Thunder," where he has succeeded in conveying the effect of the glitter of white cliffs and other objects as the thunder-cloud clears off behind them. Mr. Peppercorn is not quite at his best; "A Sedgy Pool" has the materials of a fine picture, but the trees are too defiantly ragged in execution; the best of his set are "The Edge of the Moor" and the little bright sketch (on a Surrey road?) called "The Hay Cart." Mr. Hill's best things are really his flower-pieces—still life—hardly in place in a landscape exhibition; he experiments a little too much in landscape; his "Night" is fine, however, but (as usual in such pictures) not really dark enough for night.

THE PROPOSED NEW STREETS IN CENTRAL MANCHESTER.—A Bill to authorise the construction of new streets and other improvements in the neighbourhood of Market-street, Manchester, has just been deposited for next Session on behalf of certain persons named in the Bill, who seek to be incorporated under the name of the Manchester (Market-street Area) Improvements Company. The preamble sets out that great local and public advantage would follow the making of two new streets, the one to run from the corner of Market-street and Corporation-street to the corner of New Brown-street and Cannon-street, and the other to run from the corner of Market-street and New Brown-street to the corner of Corporation-street and Cannon-street, affording in the one case a more direct road from Shudehill Market to Victoria Station, and in the other a more direct road from the home-trade warehouses and Shudehill Market to the Manchester Exchange. The preamble further recites that the buildings on the lands adjoining the proposed new streets are for the most part very old, and their removal and the erection of new buildings thereon would be a public advantage. To effect these improvements it is proposed to establish a company with a share capital of 1,000,000*l.*, divided into 100,000 shares of 10*l.* each, and with the right to borrow on mortgage a further sum of 500,000*l.* The new streets are to be completed within four years from the passing of the Act.

WESTMINSTER, OLD AND NEW:
1801—1900.

(*Continued from page* 13.)

VICTORIA-STREET. — Whilst the making of a new street from the Abbey to the Chelsea Waterworks basin at Pimlico was foreshadowed in Gwyn's "London and Westminster Improved," 1766, the formation of New Westminster may be said to practically begin with the appointment in 1845 of the Westminster Improvement Commission in terms of the Acts in that behalf of 1845-7. In 1845 various plans were submitted by Tarring, Donthorn, Lapidge, Lewer, S. Smirke, Bardwell, H. H. Russell, Abraham, and others, and "notices" were served on owners and tenants on September 27 of that year. The Commissioners laid out a slightly-curved thoroughfare 80 ft. wide, about 5 furlongs in length, and with frontages from 60 ft. to 70 ft. deep, from Broad Sanctuary to Shaftesbury-terrace, Pimlico, passing through the Almonry, Dean, Orchard, New and Old Pye-streets, to Strutton (Stourton) ground, through the burial ground at the New Chapel, and so across Brewer's-green, the artillery ground, and past the White Hart, or Elliott's, now Watney, Combe, Reid & Co.'s brewery, to a point opposite the later Victoria railway station. The street was opened on August 6, 1851. Building operations began at the south end. It is said that Mr. Elliott received 22,000*l.*, at the rate of 4,000*l.* per acre, for the meadow fronting his brewery. In Broadway, on the line of route, is Christ Church (Ambrose Poynter, 1842-3, the glass by Willement) on the site of the New Chapel built in 1626 as a chapel-of-ease to St. Margaret's. Fig. 4, from Horwood's plan, gives the plan of the streets before Victoria-street was begun.

The new frontages were not acquired as quickly as was expected. Amongst the earliest buildings were Henry Clutton's Training Schools for the National Society, begun in 1852, and some blocks of flats at the southern end by Mackenzie [December 3, 1853] and by Ashton. E. Bassett Keeling (*obiit* 1886) designed Prince's Mansions. On the site of the Black Coat School and Palmer's Almshouses with their chapel and school, founded in Tothill-side 1654, was built the "Army and Navy," renamed the "Windsor" Hotel (Thomas Pilkington, *obiit* 1898), at a cost of 80,000*l.* Another conspicuous hotel is the "Westminster Palace," 1858-61 (Andrew and William Moseley), at the west end of whose Tothill-street front stood Caxton's reputed house (the "Reed Pale") in the Almonry (fig. 5), which fell down in November, 1845. Alexandra mansions, and Members'-buildings, 1878-9, are by Mr. Francis Butler. Beyond Palmer's-passage, now Palmer-street, between the Peabody-buildings and the Windsor Hotel stood Nicholas Butler's Almshouses (1675). The Palmer and Butler Charities have been re-settled in Rochester-row. Abbey-mansions at the corner of Orchard-street were built by Mr. W. Rickard, contractor, at a cost of 95,000*l.*, after Mr.

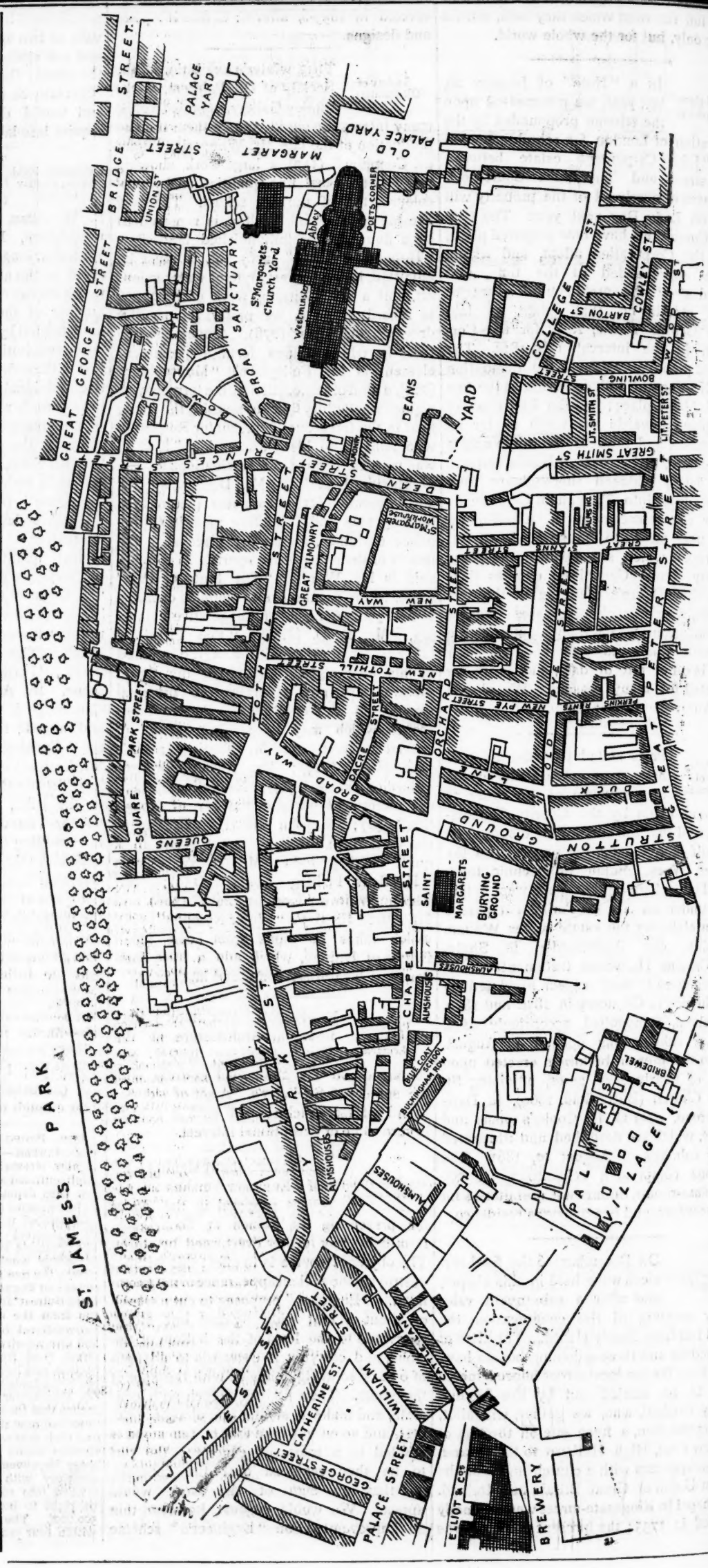


Fig. 4.—*Westminster before Victoria-street.* (*From Horwood's Map, 1795-99.*)

Fig. 5.—Caxton's House in the Almonry at Westminster, which fell down in 1845.

J. C. Pawley's plans and designs [May 7, 1898], for Government offices. Our comments upon the disaster whereby seven men met with their death and others with serious injury through the collapse of the concrete roof, and a full report of Mr. Justice Grantham's summing up for the defendant in Regina *v.* Pawley will be found in the *Builder* of May 28 and July 2, 1898.

South of Victoria-street.—The old Bridewell, first built in 1618, along the northern side of Green Coat School and Hospital, on Tothill-side, stood until 1836, when its gateway, lock, and keys (see lithograph plate in last issue) were removed as relics to the new Tothill Fields Prison, erected in 1830-4 at a cost of 186,000*l.* upon about nine acres of land—between Ashley-place and Francis-street—purchased for 16,000*l.*, and situated near the then Palmer's Village, after Robert Abraham's plans and designs, for 800 prisoners. The plan consisted of several wards, including forty-two day and 348 day-rooms, arranged around a central garden, the governor's house, with chapel above, being in the front. The entrance, on the south-east, in Francis-street, had a handsome elevation of granite, with a portcullis, and the whole structure, for which ten millions of bricks were used, was considered to form one of the finest examples of brick masonry in London. The outer wall, one-third of a mile in length, was 4 ft. thick at the base. The materials were sold by auction in February-March, 1884, and Ashley-gardens and Ambrosden-avenue now divide the site into two portions. The portal and inscribed stone of the original Bridewell were set up against the north wall of the Sessions House, since rebuilt, where they are still preserved. In 1850 Tothill Fields Prison was reserved for women convicted in Middlesex and youths under seventeen, and latterly formed the women's prison for all London. The site was acquired from the Crown by the Westminster Land Company, who in February, 1884, conveyed 4½ acres of the ground for a payment of, it is said, 55,000*l.* (since valued at about 300,000*l.*), with exchange of lands to the late Cardinal Manning, Monsignor Gilbert, and Canon Bamber for a new Metropolitan Cathedral in fulfilment of Cardinal Wiseman's project. In 1894 the design was committed to Mr. John F. Bentley, who, after some months' study amongst the churches in Italy and consultation with Cardinal Vaughan, adopted the older Byzantine style in preference to that for a basilica as at first proposed. Of the new structure, described in our columns, July 6, 1895, February 25, 1899, and June 23 last, Cardinal Vaughan laid the foundation-stone on Monday, July 1, 1895. The contractors are Messrs. Shillitoe & Son, of Bury St. Edmund's. The works are being carried out "by schedule," up to December last the sums paid amounted to 134,600*l.* It is further proposed to build an archbishop's residence, together with a convent for thirty Benedictine monks and forty-five lay brothers. We gather that the exterior ornamentation of the cathedral will be mainly confined to the façade, the decorations being concentrated upon the interior. The church of St. James-the-Less, in Upper Garden-street, 1860-1, by G. E. Street [June 15, 1861, and March 15, 1862], was built at a cost of 9,000*l.*, and endowed in memory of Dr. Monk, Bishop of Gloucester and Bristol, and formerly a Canon of Westminster, by his daughters. The fresco above the chancel arch is by Mr. G. F. Watts, R.A., the painting of the roof is by Messrs. Clayton & Bell, the carving by W. Pearce—all after Street's designs. St. Andrew's, in Ashley-place, 1854-5, is by Sir G. G. Scott; St. Stephen's, with parsonage-house and schools, in Rochester-row, 1846-7 (B. Ferrey, the glass by Wailes), were built at the cost (30,000*l.*) of Lady Burdett-Coutts as a memorial to her father, Sir Francis Burdett, Bart., who for a long period represented the borough in Westminster. The building in Francis-street for married men of the Guards regiments was designed, 1853, by H. A. Darbishire; Artillery Mansions are by Messrs. Waterhouse & Son, 1900; and the buildings on the site of Artillery Brewery, 1894, by Mr. John Calder, the contractors being Messrs. W. King & Son, 27,046*l.*

Notabilia.—For buildings, events, &c., not cited in the foregoing text:—

The Star Chamber, pulled down in 1836, some of the ornamental fittings of the Court Room removed to the dining-room at General Sir Edward Cust's country-seat, Leasowe Castle (see Capon's drawing, 1793, in the Walmisley Collection). *Little Dean's-yard:* Ashburnham House—the south wall raised, and the south part of the hipped attic roof altered in pitch (the dormers remain on the north side) and the dome of the great drawing-room flattened down, 1848, for the present top floor; alterations, including the "Scott" memorial library, 1881-3, by Mr. Bodley, for Westminster School; rebuilding, 1883, of the late Mr. Turle's house, *temp.* Henry VIII., on the site of the convent privy dorter or necessarium; "Rigaud's" boarding-house, rebuilt for Westminster School, 1897 — Mr. T. G. Jackson. *Delahay-street:* No. 2, St. James's Lodge, on the site of Duke-street Chapel, which in 1769 was made out of the north wing of Judge Jeffreys' house; Nos. 7 and 9, being the front and south wings of the house built for Jeffreys, pulled down in October, 1812, and rebuilt after Messrs. Ernest George & Peto's designs; the State Paper Office, 1829-33, by Sir John Soane, pulled down, 1862, for Sir G. G. Scott's Foreign Office; Nos. 13 and 17—Messrs. Isaacs & Florence; No. 19—W. Butterfield. *Great George-street:* Houses at corner with Delahay-street—Henry Wyatt; No. 12, Surveyors' Institution, 1897-8—Messrs. A. Waterhouse & Son [April 1, 1899]; No. 8, in 1884—W. Halsey Ricardo [October 1, 1898]; the Institution of Civil Engineers, on the sites of Nos 24-5 (original Institution) and 26, in 1894-5—Charles Barry, *ob.* June 2, 1900, the portrait busts by Mr. H. C. Fehr, Messrs. Mowlem's contract for 41,000*l.* [June 22, 1895]. *Storey's-gate:* Institute of Mechanical Engineers, opened on February 9, 1899—Mr. Basil Slade [June 3, 1899]; block of flats, 1896-7—Mr. Basil Slade. *Dartmouth-street:* Universities Mission to Central Africa, with chapel—Mr. G. C. Horsley [September 19, 1896]; and House of the Society of St. John the Evangelist, the Cowley Fathers—Mr. Henry Watson. House in *Queen-square*, for Sir Charles Forster—T. H. Wyatt (1807-1880). *Tothill-street:* The "Cock," the traditional pay-table of workmen at the Abbey, *temp.* Henry III., demolished in 1845 (see Archer's "Vestiges of Old London"). *King-street*, and the west side of *Parliament-street*, pulled down, 1896-1900, for the new Government Offices—Mr. J. M. Brydon [March 25, 1899, and May 5, 1900]. *Parliament-street:* Nos. 52-3—Mr. H. Huntly Gordon [November 21, 1896, two]; No. 54, Grindlay & Co.'s bank, 1898—Mr. Alfred Williams [December 16, 1899]; No. 48, the "Red Lion," 1899—Messrs. Gardiner & Theobald. H.M.'s Stationery Office, *Princes-street*, 1853-4, by Sir James Pennethorne, on the site of the Guards' Store and Royal Westminster Mews—Decimus Burton, *ob.* 1881. *York-street:* Milton's, and afterwards Hazlitt's, house, No. 19, pulled down in 1877 for Mr. Hankey's mansions; M. D. Ry. Co.'s offices, St. James's Park Station, 1898—Mr. H. L. Florence, Messrs. Cubitt & Co.'s contract, 15,416*l.*; Wellington-chambers, 1899—Mr. G. Simpson. St. Ermin's-mansions, *Caxton-street*—Mr. E. T. Hall [June 25, 1887]. *Vincent-square:* St. Mary's Church, 1837—E. Blore; Grosvenor Hospital for Women and Children, 1897-8—Messrs. Roumieu & Aitchison as honorary architects for the hospital and out-patients department.

Victoria-street: At the south end, the Clock Tower, 1892—Messrs. Gillett & Johnson. St. Matthew's Mission House—E. Ayton-Lee (1846-90). St. Matthew's Church, *Great Peter-street*, begun in 1849—Sir G. G. Scott. *Great Smith-street:* Free Public Library—Mr. Francis J. Smith, Messrs. Stimpson & Son's tender, 7,350*l.*, accepted in August, 1891; Baths and Washhouses—Mr. Francis J. Smith, Messrs. Stimpson & Son's tender, 18,800*l.*, accepted in August, 1891; enlargement of Queen Anne's Bounty Office, 1899-1900—H. Currey and Mr. Percivall Currey. Police-station, *Rochester-row*, 1900—Mr. J. Dixon Butler. *Greycoat-place:* Army and Navy Co-operative Society's buildings, 1899—Mr. R. T. Blomfield. Westminster Palace-gardens, *Artillery-row*, 1898-9—Mr. A. Blackford. Residential flats on west side of *Emery Hill-street*, and south-east side of *Francis-street*, 1900—Mr. E. J. Stubbs. Blocks of flats on the north-east side of *Carlisle-place*, and two blocks on the north side of *Francis-street*, between Carlisle-place and Morpeth-terrace, 1897-8—Mr. G. Baines. Army and Navy Mansions, corner of *Victoria-street* and *Francis-street* [May 7, 1898]—Mr. C. J. C. Pawley, built by Mr. W. Goodwin, 40,000*l.*

Horseferry-road: Coroner's-court, public mortuary, &c., 1893—Mr. G. R. Wheeler, Surveyor to the Vestry; workshops for Messrs. Broadwood, 1856—Francis Edwards, *ob.* 1857; Wesleyan Normal Training College Model School, 1849-50—James Wilson [December 21, 1850.]

Chapter and Regency streets: Drill-hall and headquarters of the Electrical Engineers' Volunteer Corps, 1900—Mr. W. C. Waymouth.

Orchard-street: Offices and warehouse, 1898—Mr. G. H. Elphick. Rebuilding on the sites of Nos. 10-3, *Little College-street* and Nos. 6-8, *Cowley-street*, 1899-1900—Mr. F. A. Smith.

North of Victoria-street.—Westminster enjoys a full share of eleemosynary and educational endowments. One of the more important was Emmanuel Hospital, in James-street (formerly Buckingham-row, and since renamed Buckingham-gate), founded by Anne, widow of George Fienes, tenth Lord Dacre of the South, who died *s.p.* September 25, 1594. The Baroness directed her executors to build near to her own home, Stourton House, in Tothill-fields, "a

Fig. 6.—Milton's House in Petty France, Westminster.
(Now pulled down.)

meet and convenient house for twenty poor aged folk and twenty children," and appointed the Lord Mayor and Aldermen of London to succeed her last surviving executor as Governors of the trust. The hospital, as rebuilt, *temp.* Anne, was enlarged with a chapel in 1732, and in 1821 with a school-room and dormitory for the extended school that in 1873 the Charity Commissioners took into their scheme for the United Westminster Middle-class Schools—Palmer's (1654), Emery Hill's (1708), St. Margaret's (Greencoat, 1633), and Emmanuel—now in Palace-street. The buildings stood on three sides of a quadrangle, each of the two wings containing ten one-storied sets of rooms. The materials were sold on February 20-1, 1894, and in July of that year the late Lord Justice Chitty sanctioned a scheme for the apportionment of the eleemosynary endowment whose income had fallen to 2,600*l.* a year. St. James's-court (C. J. C. Pawley, 1896-7) has been built upon the site; the large gates, of forged and hammered iron, by Messrs. Starkie Gardner & Co., after Mr. Pawley's designs, we illustrated on December 12, 1897. Close by are the new Christchurch Schools, 1899-1900, by Messrs. Beazley & Burrows, who also enlarged the Bluecoat School [July 16, 1898] in Caxton (formerly Little Chapel) street, removed thither from Duck-lane in 1709; the later schoolhouse, at Brewer's-green, which some attribute to Wren, was built by William Greene, owner of the still existing brewery. "Green's brewhouse" is plotted in Evans's rare map-plan of London, 1799, as next, south, to the chapel—formerly Dr. Dodd's, now St. Peter's—in Charlotte (now Palace) street, Stafford-row, and was, it appears, the predecessor of Elliott & Watney's (see above), by the long-familiar sign of the White Hart. The Charity Commissioners framed a scheme in January, 1898, for the sale of the Bluecoat School at not less than 9,500*l.* to the Vestry of St. Margaret and St. John united parishes. Near the end of James-street are the headquarters of the 7th Middlesex "London Scottish" Volunteers—J. Macvicar Anderson (1885)—and Queen's Hall, the headquarters of the Queen's Westminster Volunteers. For the Town Hall in Caxton-street, opened on July 19, 1883, Messrs. Lee & Smith won the first premium [October 9, 1880]; it occupies the site of St. Ermin's Hill Workhouse, and, on the north, of Van Dun's Almshouses. The cost, about 42,000*l.* of the hall and site was quite met by the sale of the old workhouse in Marloes-road to the Kensington Board of Guardians. Westminster Chapel, 1840 (John Tarring, *ob.* 1875), at the corner of James-street and Castle-lane, site of the old Westminster Hospital (1719), was rebuilt in 1864 after Mr. W. F. Poulton's designs.

In the spring of 1652 Milton, being then Latin Secretary to Cromwell, removed from Scotland-yard to "a pretty garden-house" in Petty France, which at that time was entered, through its garden, from St. James's Park; he remained there until the Restoration, becoming totally blind in the interval. The house (fig. 6), since numbered 19, York-street, and rented in 1812-9 by William Hazlitt for the poet's sake, gave place in 1877 to Mr. Hankey's "Queen Anne's Mansions" (begun in 1875), where the lawn includes the ground of Milton's garden.

Millbank.—The grounds of Peterborough, known also as Belgrave, or Grosvenor, House (pulled down in 1809) extended northwards to Market-street, since Horseferry-road, and westwards to alignment with Marsham-street. The house, built by John Mordaunt, elevated Earl of Peterborough in 1628, was bought by Alexander Davies, of Ebury, whose only daughter and heir brought the estate in marriage to Sir Thomas Grosvenor, Bart. (*ob.* 1700), ancestor of the ducal house of Westminster. Pennant, whose account is somewhat confused, says the house "was rebuilt in its present form by the Grosvenor family"—it is plotted as "Belgrave House" in Horwood large-scale survey of May, 1799. It is commonly averred that the Penitentiary was built upon the site of Peterborough House. We have been at the pains to ascertain by measurements on old and new maps and surveys that the south wall of the house—the river there runs nearly south and north—stood 198 yards distant from the middle line of Horseferry-road; that distance struck on the large scale Ordnance survey (1867) ends at about 11 yards short of the south end of Grosvenor-wharf, and at a point 146 yards distant from the nearest angle of the prison's outer wall, which angle was 99 yards from the river wall. The two Acts, 52 Geo. III., c. 49, and 56 Geo. III., c. 63, recite the purchase from James, seventh Earl and first Marquis of Salisbury, as sole vendor of a site for a Penitentiary House for London and Middlesex; the ground, some seventeen acres, between Peterborough House and the Halfpenny Hatch (south) was bought for, it is said, 12,000*l.* A sketch in the lithograph plate gives a view of rural Millbank as it existed at the opening of the nineteenth century.

Since some misconception prevails as to the authorship of the design for the prison we may here state that in 1813 the Government awarded premiums of 200*l.*, 100*l.*, and 50*l.* to J. Williams who had been teacher of military drawing at the Royal Military College, C. A. Bushy, and Hervey, respectively, for their proposed designs. On March 7, 1868, we printed a letter from a correspondent stating that the entire fabric (the gateway excepted, which was by Thomas Hardwick) was built from Williams's drawings, in the making of which our correspondent helped him. The plan of the radiating blocks has been claimed for Jeremy Bentham; also for his brother, Sir Samuel Bentham, by Sir Samuel's widow in letters addressed to and printed in this journal. In 1815-6 Sir Robert Smirke, R.A., made good, by laying down concrete, the failing foundations of the gateway and other portions, and in the end he rebuilt, in brick, the six radiating pentagonal blocks. Owing to the defective nature of the soil the structure cost a great sum of money, computed at nearly 500,000*l.*

The prison (see lithograph in last issue) was first used on June 27, 1816, for thirty-six female prisoners from Newgate, and was completed in 1821. In 1843 it became "Millbank Prison," with a capacity for 1,000 convicts. All the doors were of iron, the cells, galleries, kitchens, laundries, yards, &c., being paved with York or Portland stone. About nine acres of the site consisted of the burial-ground, exercise-yards, and gardens. Having ceased to be used as a convict prison, the building was finally closed on November 1, 1890. The materials were sold at auction at intervals in 1892-3. On October 24, 1893, the London County Council resolved to purchase about ten acres of the western portion of the site at 2,500*l.* per acre for the erection, at an estimated cost of 245,981*l.*, of dwellings for 3,700 (since increased to about 4,500) persons of the working classes. In February, 1897, they instructed their then architect, Mr. Blashill, to prepare plans for about 1,200 persons. In a limited competition for a "specimen block" of further buildings Mr. W. D. Caröe, as assessor, awarded, in March, 1899, the first premium of 150*l.* to Messrs. Spalding & Cross, the second of 75*l.* to Messrs. Joseph, Son, & Smithem, out of sixteen competitors. Of the seventeen blocks, the first five were completed in the course of last year; they are named Turner, Hogarth, Millais, Leighton, and Romney buildings. In the south-eastern corner of the prison site has been erected by Messrs. Higgs & Hill, after Mr. Sidney R. J. Smith's plans and designs [January 2, 1897], the National Gallery of British Art, the gift to the nation of Sir Henry Tate, Bart. (*ob.* December 5, 1899), and opened by the Prince of Wales on July 21, 1897. Mr. Sidney Smith's design was completed by the building of ten more rooms for pictures and sculpture, in 1899, by Messrs. Higgs & Hill.

THE ARCHITECTURAL ASSOCIATION:

HINTS ON THE PREPARATION OF STUDENTSHIP DRAWINGS.

AN ordinary fortnightly meeting of this Association was held in the Meeting-room of the Royal Institute of British Architects, No. 9, Conduit-street, Regent-street, W., on Friday evening last week, Mr. W. H. Seth-Smith in the chair.

The minutes of the last meeting having been confirmed, the following gentlemen were elected Members of the Association, viz., Messrs. H. W. Clapson, C. L. Gill, H. J. Rippon, and K. D. S. Robinson.

Mr. R. S. Balfour, Hon. Secretary, announced the following classes commencing, viz., the Elementary Water-Colour class on January 11, and the Elementary Construction class on January 14.

The Chairman said he very much regretted to announce the death of a past-President of the Association, Mr. H. C. Boyes, and he desired to move that a vote of condolence be forwarded to the relatives of the deceased gentleman.

Mr. R. Weir Schultz then read the following paper entitled "The Preparation of Studentship Drawings":—

"Most of our studentships of the present time are rightly or wrongly awarded on a system by which, under certain conditions, drawings are submitted in competition for the various awards. It is a matter of grave question whether this is the best method of choosing the student who is most worthy to participate in the benefits to be derived from the opportunities for study opening up by the bestowal of the prize. I fancy, however, that it would be going outside the limits of our subject were we to discuss this point; we must, therefore, accept it for the moment as a fact, and try to consider how far the conditions can be acted up to with most benefit to the student and with the prospect of obtaining the best results. During the past thirty years or so architectural students have been encouraged to worship at the shrine of the fetish of mere draughtsmanship, and they have got into the way of dividing themselves into two camps—(1) that of the draughtsman *par excellence*, and (2) that of the so-called practical man. The former have been accustomed to go about with their heads rather high in the air, and a general tone of superiority in their bearing, and to be obtrusively patronising to the latter, who have been looked upon as mere 'hewers of wood and drawers of water.' It was considered a much greater merit to be able to make a pretty perspective than to be capable of working out an honest, straightforward piece of construction; and this is hardly to be wondered at, when we find that the bulk of the 'plums' were usually awarded, consciously or otherwise, to the

most taking sets of drawings, looked upon as drawings. Many things were responsible for this, and amongst them I think we may place the following:—1. In the case of the Royal Academy, the fact that the architectural prizes were judged by a committee or council in which painters largely bulked, the majority of whom had little or no knowledge of architecture. We can all remember instances where thorough and careful studies were obviously passed over in favour of others which had been made purposely attractive to the body of selection, often at the expense of ignoring or depressing the essential points of the subject set for study when judged from an architectural standpoint; and, indeed, students got to expect this, and, consequently, drawings were prepared purposely with a certain superficial attraction. I well remember a hue and cry which was raised by students a few years ago when by strange chance a really strong and original, if somewhat unprepossessing design, showing true genius in composition and construction, was given the first place over others better drawn perhaps and worked out on more correct archæological lines, but which did not show anything like the same sturdy grasp and powerful, strong handling of the subject. 2. I think I may also say that Mr. Norman Shaw's beautiful drawings had a potent influence on the younger generation, who seemed to lose sight of his power of composition and daring of construction in the charm of his draughtsmanship. 3. The attraction of the walls of the architectural room at the Academy also carried weight. Men knew that a pretty drawing was more likely to be placed than a clear straightforward architectural diagram. 4. The growth of architectural competition generally, likewise created a certain demand for showy drawings, and men knew that they could command a higher price for their services if they cultivated the knack of mere draughtsmanship, and so were apt to ignore the more essential qualities which go to make a good architect.

I tried to ascertain from your Hon. Secretary the motive which influenced your Committee in selecting the subject for our evening's entertainment, but the answer I received left me more in the dark than before. I assume, however, that we are expected to give you some hints that will be useful to you. There are at least two ways in which such hints can be of service to you; but they may lead in diametrically opposite directions. The first is, hints that will enable you to go in for a studentship with a chance of winning it; the second, hints that may help you to prepare your work in such a manner that you will reap the greatest benefit to yourself from the study of the subject which has been set before you. On the first I cannot venture to help you, and will leave this to my friend Professor Pite, who, in his day, was fortunate in obtaining some of the most sought-after prizes, and who is now, I believe, a member of one of those mysterious bodies or councils who carry your fate in their hands. On the second, I can, perhaps, give you some advice which may be of use to you if only in the way of starting what I hope will be an instructive discussion afterwards.

I assume that studentships are looked upon as purely educational, that is to say, affording the young architect an opportunity which would not otherwise be open to him for perfecting himself in the study of his art. To enable him to obtain one of these studentships, certain conditions are laid down, some of which, I am sorry to say, have a considerable savour of red tape about them, and tend to hamper the student rather than to encourage him. I refer more particularly to the condition regarding size and number of sheets, scale of drawings, &c., which are in many cases needlessly arbitrary. Broadly speaking, the type of subject is of two kinds. The student may have to prepare a design for a building or a portion of a building, or he may have to submit a series of drawings, showing evidences of study of old buildings, or their accessories.

The first we may look upon as an essay in design and composition, and it will surely bear on its face the impress of the training through which its author has passed, or show evidences of the course of thought which has influenced him, but whether it will show a grasp of the sense of proportion, a constructive capacity, or an idea of fitness for a suggested purpose is very doubtful. The second will indicate that the author has visited and drawn examples of old work, or perhaps made careful and exact measured drawings to scale of an old building—church, palace, or mansion; but how far he has peered behind the surface and tried to analyse the motives which influenced the old men, or to grasp the difficulties they had to contend with and see how they overcame them, is quite a matter of small moment as things are at present—probably the idea never occurred to him.

In the first case, we have a set of taking drawings, a plan more or less apparently workable, the elevations designed in some phase of a past architecture, and all nicely inked in with a good deal of go, carving and figure work perhaps suggestively indicated, but no cohesion, no definite note of character. You look at the perspective view; the building might be suitable for half-a-dozen purposes, it lacks expression.

In the second case you have a series of very pretty drawings with plenty of flick and dash—sketches of church towers, say, or old mansion houses, a piece of panelling or a ceiling to scale, or a church screen or font; and there may be also some sheets of coloured decoration more or less approximately suggesting the present state of the original, with all the blemishes shown to the life; but how seldom anything more! How rare to see the subjects really studied, the materials analysed, the detail and construction investigated!

Now in the preparation of studentship drawings it seems to me that draughtsmanship as such should occupy a secondary place. It is not the first essential by any means. The quality of the paper used, the tone of the ink, the breadth of the line, the way in which carving should be indicated, how mouldings should be tinted in; none of these things is of prime importance; undue attention to them will not make you a better architect. What you want to be able to do is to show as clearly as you can that you have made a thorough study of your subject. If it is a design for a new building, get your plan simple and straightforward; if an awkward site is purposely given, fit in your building skilfully and directly. Do not sacrifice everything to a hobby or a piece of empty cleverness. Get a sense of proportion and of dignity, or homeliness as the case may be, or both combined, into your composition. Ignore striving after effect as such. Make it apparent that you have considered the most suitable materials to be employed and the most judicious use of them. Do not neglect your construction. Do not overlard your design with ornament everywhere; if you want sumptuousness, you can get it by concentration more effectively than by diffusion. If it is a building for a town site, do not neglect such practical points as lighting. Do not put heavy cornices or other projections in positions where they will obstruct light and air, or where they will not be visible. Do not place your sculpture where it could only be seen at an angle of 60 deg. or not seen at all. Avoid unnecessary projections that would in reality only catch and hold dust and dirt, to be blown into the windows whenever occasion offers. Do not propose a scheme of colouring that will probably be obliterated after the first six months. Be reticent, appropriate, dignified. Give your attention to these and other such points, and do not be afraid. There will be plenty of scope left for a building with character, expression, and individuality; and see that your drawings express the building and its nature, just as the building itself should express its uses. Let them be clear, straightforward, and simple. If a perspective is required, let it not be set out from an impossible point of view. Apply the same rules generally to whatever the subject may be. Leave the books alone. There are far too many books to refer to nowadays. Sit down and let your mind have free play, and think the subject out from the beginning. By doing so you are training yourself for the real work of the future, and for tackling the real buildings you all hope to erect. There will be much harder and more complex problems to face then, but you will be able to deal with them far better by overcoming the ones of the present, and whether you win your studentship or not, you should come out of the ordeal feeling stronger and more capable by having manfully faced the real issue, by having trod the narrow path and not the broad road.

If, on the other hand, you are asked to submit studies of old work, go and examine the old buildings thoroughly; try to put yourself in the place of the old men who built them; realise, if you can, the conditions under which they laboured; look how they made the most of the materials to their hand, and see how they overcame their difficulties, and how sometimes they did not, and had to remedy things afterwards; take warning from their weaknesses; admire their general skill and foresight; and learn what is good to be learnt from their experience; but do not think that you are going to imitate them, because you cannot if you try. Conditions are entirely different, and what was straightforward and right in the thirteenth century would be more often than not an affectation now; but come away, if you can, imbued with a desire to emulate them by trying in your day and generation to tackle your conditions as they did theirs, and show by the results of your study that you have grasped this. You may not win your prize, but you will have learned more than if you had done nothing but brought back pretty water-colour drawings and notes of useful, cribbable detail.

I do not wish to say much more now, although there is no doubt a great deal more that might be said. Do not forget that you are young, and being young, you have enthusiasm, which should carry you far and overcome many difficulties. Do not bury it in the slough of past styles—of Italian Renaissance, of Francis I., of Thirteenth Century, of Roman or Byzantine or Periclean Greek. Do not let yourselves be mere draughtsmen, but be men, and acquit yourselves like men, modern men, men of the new century which has just dawned. Yours will be the task to grapple with its complexities and its new problems. Try to make the complexities less complex and the problems more simple. Prepare to tackle them with a stout heart and with determination, foresight, and common sense. Do not mistake the shadow for the substance. Do not be slaves to a past which you probably do not understand. Do not study old buildings exclusively, but look at the works of great modern architects, men like Butterfield or Mr. Philip Webb, who have learnt the useful lessons that the past can teach better than most men, but who can never be classed with the copyists, and whose work can never be labelled with the tag of a dead style. They have worked in the period nearest to you, and have understood and tackled its difficulties. Where they have succeeded there is room for at least a hope that you will not fail."

Professor Beresford Pite then delivered an address on the same subject. He had not, he said, prepared a paper in the ordinary sense of the word, and all he proposed to do was to give a few hints on the subject. Mr. Schultz had put before them the evils of competitions and of draughtsmanship. It was certain that those evils would prevent a student from getting a studentship if he were really convinced of the evils of competitions and draughtsmanship, for in that case he would not compete. Another aspect of the matter which was equally tantalising was that, from Mr. Schultz's point of view, a competing student was always working for an impossible end—giving his attention to real building which would never be built, and working out construction which would never be constructed. A student from that point of view had better not go in for a competition. For his (the speaker's) part he would very much like to go in for a studentship competition now with all its evils.

In the first place, he desired to give them a few hints on materials. He thought that Mr. Street's advice on the subject was good advice, viz., to use only the best materials. Bad paper had an astonishing influence on a drawing. A good hard paper should be got and cheap paper should be avoided. There were many kinds of Whatman which could be used, and a very good paper, on which the ordnance maps were printed and which stood a good deal of scraping, was that known as unbleached Arnold The O.W. papers were good, especially an extra strong one with a very smooth surface, and there were good papers known as Joynson's. Drawing paper must bear scraping or the drawing would suffer. The best pencils should be used—the sixpenny kind he meant; for after all, in pencil drawing fine line was necessary, especially for the student, who should get a good point on his instrument. In ruling lines, a junction should always be effected where two lines meet; never stop accurately at the point where they meet, but draw them boldly across and put the point of the compass on the junction. They should never draw with the H, the HH, or the HHH, for as architects

they should draw beautifully, and the use of a hard point was about the worst habit possible for the fingers and tended to harden the student's methods. An HB would be soft enough for small scale, but for details a softer pencil could be used. They should draw mouldings with a free and running line, and the best instrument for the purpose was a brush, which afforded plenty of freedom. India-rubber was a very important adjunct. Any artist or architect who was such an accomplished worker that he had no need of india-rubber must be a very bad designer. He judged a man's artistic morality by his india-rubber. An architect must have an elastic conscience, as far as that went, made of india-rubber. Rubbing out was the test of perseverance, the test of revision. The late Professor Reginald Stewart Poole, of the British Museum, once said, and said truly, that the governing principle of Greek design was elimination; they eliminated and eliminated down to that point of refinement where the work would stand no further elimination; in other words, they rubbed out. Their friend, Mr. Devey Brown, who unfortunately had left the ranks of the profession, once sung the praises of india-rubber in some clever and amusing verses which were published in *Architectural Association Notes*. As to pens, they should avoid those abominable crow-quill mapping pens, which were as vicious as hard pencils and quite calculated to spoil a drawing; at the same time, for fine work a fine pen was needed, and those known as Edinburgh Fine Points were to be recommended. Decent quill nibs were difficult to get in these days, but students should not be put off with bad ones, for bold and free sketching. It was good practice to learn to draw with a pointed stick, for by that means they got breadth of line. As to bottle ink *v.* stick ink, the bottle ink was convenient, but to his mind it was a doubtful blessing. It was perfectly black, it was true, but under india-rubber it lost its brilliancy. With bottle ink, too, they were always sure to draw with that same dead black, and his advice, in short, was to flee the bottle and use the stick. They needed an ink which they could erase, and he thought that stick ink erased better than bottle ink. For erasing ink they should use the hardest and best ink erasor. Attempts to wash out ink lines or to scratch them out were, as a general rule, likely to fail. As to mounting drawings, mistakes were fatal. It was undesirable for a student to experiment when mounting his drawing, and he very strongly advised them, if they had a set of drawings on which they had spent much time and thought, to put them in the hands of the picture-frame maker, especially if they had got to the last week or day before sending in. They should not use cheap strainers, and should have them stout enough; if they did not, the strainers might depart from the office nice and flat, and when they were seen on the walls the corners would be buckled up owing to the drying of the paste. They should have an eye to marginal lines. Very nice paper was to be had, but often drawings were spoilt by a horrible blue or a too dark brown. There was nothing safer for a black-and-white drawing than a white margin. As to the size of the strainers, he did not think we had them large enough, though that was chiefly on account of want of room. In the Alpine Club the Institute of Architects were now hanging 169 strainers more than last year, and of course there was not room to show them. Architects ought to, and perhaps one day would, have a suitable room for the exhibition of such works. As to the writing on the drawings, architectural printing revealed character as much as handwriting—perhaps a little more accurately. A pompous fellow, full of eccentricities, would be almost sure to show it in his architectural printing. Writing on drawings should be well and plainly done, though they should not imitate printers' type. Then there was the fine fun of selecting mottoes, which afforded the only chance a student had of being a little patronising to the adjudicators, and it was interesting to notice how character came out in the selection of mottoes. Their friend, Mr. William Scott, who had since turned his attention to etching, went in several times for the Institute Soane Medallion, and the motto on the drawings that finally won him the prize had the splendid motto: "Choose well; your choice is brief yet endless."

As to the methods of finish, if the Association were in the habit of passing resolutions, he thought that a resolution addressed to promoters of studentship competitions, to the effect that drawings need not necessarily be finished in black and white, would be a healthy one. Black covered a multitude of sins; it was inimical to effects, and led to carelessness in drawings. Windows, for instance, were made black instead of inlets for light. He did not know why black had grown to be a necessity in such competitions, but he supposed the promoters were afraid of being bamboozled by colour. There really was a fine scope for the careful use of colour in the getting-up of an architect's set of drawings, and the whole paper technique of an architect ought to be artistic and satisfactory. In default of colour he would sooner have a whole set of drawings in outline, which would lead to the cultivation of boldness and quality of line. There was nothing more deceptive than to draw a set of drawings and then to black them in, for the black destroyed a fine line altogether. Window black was especially mischievous; vertical lining was better. They should avoid free etching on a geometrical drawing, and he thought the shadow etching which was sometimes seen in deficient elevations was a mistake, for it took the attention away from the elevation and its proportions.

In students' designs sketchiness was not possible or permissible, for as in painting and other forms of drawing, the line of demarcation between sketching and finished work was very definite indeed. The Royal Academy did not, they would say, exhibit sketches. Every picture must have a finished background, and there was just the same distinction of line in architectural drawings. A sketch had a charm and freshness which, though attractive, was manifestly different from the finished study. Complete perfection of the accomplished geometrical drawing should be aimed at, but the two elements of students' drawings should not be mixed up. Students should not raggedly sketch in tiles, &c., on to a carefully outlined drawing. He did not see why shadows should not be scientifically put in, and any student able to do that successfully would have a good pull over those who had not acquired the art.

In spite of its sinfulness, he must say there was a charm and a pleasure in accurate draughtsmanship—in sitting down and trying to excel in it; in trying to draw the dentils and brackets of a cornice, for instance, in such a way as to watch the growing effect; and gradually bringing in detail and letting the building gradually grow up. In inking in elevations they should give attention to the effect of lines; but, unfortunately, this was seldom done. In treating ornament, they should give attention to the concentration and grouping of those lines which made the drawing effective. They could not be too much concerned with the actual lines which told in an actual building, but they should always bear in mind the very important truth that a building never looked as it was seen in elevation on paper. When they were dealing with elevations they were dealing with diagram. There was a definite, logical difference between the elevation, viz., what the building was and what the building appeared to be; there was no real relation between the two apparent to the eye. As to the indication of surface and material, a great deal of interest could be given to a drawing if this were studied carefully. They would realise that drawing horizontal lines 3 in. apart all over the building made it look like brickwork; drawing them a foot apart, like stone; and omitting them altogether, like stucco. He had seen beautiful drawings in ink with the brick-course lines put in in pencil and the stone joints in their order, not to confuse the construction lines. But these methods should be used only so far as they gave a conventional effect akin with the materials of the surface.

Plans could be made impressive by the simple art of dotting, and a crooked plan could be made to look quite important by the aid of dots. Pavements and ceilings, fully shown, often made a drawing very interesting, and students must take advantage of these points, especially as they were not asked to show drains and gullies. The interior of a building should be shown in section; it was an opportunity for display which was all studentship drawings were for, and students should make the most of their opportunities. He would advise students to take full advantage of the size of strainer, and make the size of the strainer the ultimate size of the building.

In the detailed drawings, which were usually wanted, a rare opportunity was afforded. The promoters of the competition knew pretty well the sort of thing they wanted in the elevations, but their minds were blanks as to the detail, and they directed that some part of the elevation must be drawn to a larger scale. That was the student's opportunity for display. He should show his freehand and indulge his humour in sculpture, and generally show what sort of a man he was. They should draw boldly, and should make up their mind that their detail should not be overcome by a neighbouring perspective, or by the plan in black above or below. In detail there was an opportunity for using with plenty of freedom the pointed stick. Mr. Schultz had advised them to take the perspective from a possible point of view. He (the speaker) said, do not, and for this reason: the building would never be built, and students should be absolutely unfettered. They should be as original in the matter as they could, and if there were any choice, be imaginative—taking an imaginary standpoint rather than an actual one. They should say to themselves: "This is to be a picture, not a perspective; this is the end of my design; this is all I have been working for; I have come to the point when I can enjoy myself in laying out the richness of my imagination, spreading it large upon the strainer." The building would never get nearer actuality than that; therefore they should make the most of their opportunity. Of course, the perspective would fail badly if it had no relation to the design, and they must work the thing out so as to give it its value. In that connexion the best thing he could do was to give them an idea of what he meant. Take the perspective drawings of Piranesi, the great perspective artist; look how he revelled in the idea of vastness! Take the drawings of William Burges, when he was purely imbued with the Gothic flavour; he drew St. Simeon Stylites simply for the sake of drawing, and for nothing else—a most delightful drawing which would for generations do students good to look at.

As to coloured perspectives, they had got into disrepute owing to the weakness of competition assessors. One of the most distinguished R.A.s of the day—an accomplished water-colour artist—issued competition directions with the almost invariable rule: that the perspective was not to be in colour, but was to be in outline. There was no monopoly of this art, and it was open to all who would like to venture. He would suggest that wherever they had the opportunity they should master the art of colouring architectural perspective drawings. That was a large order, but still there were plenty of opportunities for the proper study of the subject. They should go to the picture galleries and look at the works of that wonderful old architectural draughtsman, Mackenzie, to say nothing of Prout and Roberts and Holland. Turner's extraordinary accuracy of architectural drawing should be studied, although in the ordinary sense of the word Turner was not an architectural artist. There was Mr. Ernest George, too, who had founded his delightful method on a sympathetic study and mastery of the art of Prout and others. It was a Fine Art which was being lost owing to our prejudices and the decrease of the art of chromo-lithography.

As to pen-and-ink work, the greatest duffer with the brush, or the most nervous architectural artist, was safe in an outlined diagram, and this was possible to those who were nothing more than geometrical draughtsmen, and could be made quite interesting and beautiful. Of course, if they liked to go further, and shade it in pen-and-ink, they would be going outside the bounds of diagram-drawing into a new world altogether, where they would need some one to guide them. For the study of pen-and-ink work, he would advise them to study etching, or the works of etchers. The tendency in all pen-and-ink work was to get black spots and darkness without composition or line effect. An accomplished artist like Mr. Axel Haig never failed in this respect; his old black-and-white drawings showed that they were equally true in composition, weight, and value. There was that gradation of tone in Mr. Haig's work which was difficult to attain in pen-and-ink work. They should get a good type and follow it thoroughly; Mr. Norman Shaw, for instance, afforded a beautiful type, and had founded a school which was not difficult to follow, as the methods were clear. Foliage and foreground were subjects of diffi-

culty. Students could not go to some clever artist, as Mr. Shaw did, and get foliage put in; but rather than do it badly, students should omit it. They should study the work of the old men, and notice the way in which they filled up the foreground with architecture—with steps, terraces, pavements, and frustra. That method was open to architectural students who knew more about such things than they did about foliage. He had found useful the pen-and-ink sketches that accomplished artists used to put in the catalogue of the oil and water colour picture exhibitions. The wretched little photographs now put in were no good, but the pen-and-ink sketches which were their predecessors were exceedingly useful. If the student wanted to put in trees, he should take time in studying them, and obtain photographs and draw fully and carefully from them.

As to measured drawings, that was another class of work altogether, and must be dealt with rather more differently. If the drawings were to ¼th scale, the plan should be done first; then the line of heights to the scale of the plan. Beginning at the top and working downwards the mouldings should be made full size and not touched afterwards. A few leading dimensions should be taken on the spot, and the building drawn to scale and the mouldings filled in at home from the full-sized drawings. The plot-scale sketches ought not to be touched again, for the redrawing of them robbed them of all their life, and studentships which were given for measured drawings not done on the spot were worthless, and, in his opinion, the prize for measured drawings should be for work done on the spot only. In this connexion the student should pay attention to the time of the year, so as to give the necessary days instead of hours to doing the work properly. In measured work, everything that Mr. Schultz had said about construction was essential. The student was not designing, but recording accomplished fact, and unless he studied that accomplished fact thoroughly he would not do himself any good. They had to learn to think backwards—to begin with the finished building and go back to the elements out of which it was produced; consequently, they should measure the joints and show nothing which had not been measured. They should not, for instance, take the drawing home and proceed to tack on the stonework. If they wanted to show the rubble, they should measure it. That seemed a hard task, but they might measure, say, 3 ft. of it very carefully. This was an invaluable study and equally necessary for both beginners and advanced students, who ought to sketch and measure with thoroughness to the end of their studying days.

As to pretty pencil sketches, they could be done for their own sake—or for the ladies—and students could, and should, enjoy such work in doing so. Such sketches had their work to do, as had other pretty things in this world; but such work should not be confounded with the steady, businesslike drawings which were useful to an architect.

Mr. Schultz had given good advice as to colour decoration. It was very difficult to judge colour decoration from sketches or drawings, and he was inclined to think that drawings of colour decoration were of doubtful value. The colour deceived one, and it was difficult to translate on paper the actual colour of the building itself. One was liable to be greatly deceived, though of course it was necessary to take note of arrangements in the design. For the purpose of studying colour they should go to flowers, the old masters, and ceramics. One rarely got good colour out of old buildings, for the mediæval builders avoided harmony and indulged in positive contrast; whatever harmony in colour there was in old architectural works was the result of time—a refining fog, which made old buildings beautiful. Still, it must not be forgotten that the original colour was often crude, or extreme. Mr. Butterfield, who realised this, used colour as the mediæval architects did, and he was howled at for his pains.

As to design, happy indeed were students. They were happier than their employers, happier than practising architects. They had no clients to worry them, every opportunity to design, no fads but their own, and these they always enjoyed. There was no limit to cost, no light and air troubles, and above all, no hurry. Students had ample time for working out their designs. Oh, the joy of being able to design just for the sake of designing—to do it because it was nice, and not for the sake of a living! That was the delight and pleasure of a student's life—he was free from carking care, and while he built castles in the air somebody paid for him to live. Then they could realise the truth that audacity always paid, for in students' competition they could be as audacious as they liked. His advice to them in matters of design was to begin early. The Institute, for instance, published their conditions of competition in March, and the designs had to go in by Christmas. Students could do no great work if they did nothing in the matter until the summer was over. They should begin at once to work up examples, and, as they did so they should grow bold. They should say, "This is not good enough or large enough." They should not be content, but should think there was something better to be found ahead. But as they collected examples, they must design. They should not say, "When I have collected all the designs on this subject, I will begin to design myself." If they did they would find they had collected more than they wanted, and the material would not digest. Pegasus was a greedy and lazy beast, who must only have a certain amount of food. When the student had found his material he should work upon it. If he began in March the days would begin to get longer; whereas if he left his studies for cricket and croquet, and did not commence work until after summer, the days would grow shorter. If he commenced work in March, the fever would be on him in May, and by June he would be wanting to give up the delights of sports for something more exciting—something more enrapturing—something which would take him to the desk rather than the river. There was another reason for starting early—unlimited time was needed for revision. The whole history of good design was—revise, revise, revise; the wording might be altered into—refine, refine, refine. They should give themselves opportunities for going back upon themselves, and nine months were not too many for the preparation of a successful student's design. A student should sketch, rub out, and start again and again, keeping himself fresh, so that when the brilliant idea came which would certainly get him the prize, he would be able successfully to solve the problem. For they must not forget that every problem had its solution. They should not forget, moreover that the architect who was easily pleased with himself—the man who could knock the thing off as he came up in the train in the morning—was a donkey. Nothing could be "knocked off." Unfortunately the "knocking off" process came easily to some architects who had been in the profession a year or two, and who prepared designs for little stucco villas in provincial towns. But that was not architecture, which could only be learnt by downright hard work, and this principle underlay all good design. True, there were moments of inspiration, but sometimes they were worth nothing at all, except to please the student, for they often put one on the wrong scent altogether. Inspirations were sadly needed, but they were a doubtful blessing when they came. One could not brew from nothing, and in architecture the only way to produce was to know. The student must feed his imagination and cultivate it, and fill his mind with information; he should take up a period or style, and work it until he got to the bottom for the sake of understanding it. It was open to them to design in the style chosen—not as the ignorant architect did, but as the Academy student was taught to do. Let him design, say, an immense mansion in the style of Cyrus the Persian, as a very accomplished architect once did, producing an extraordinary design, which was published in the Architectural Publication Society's proceedings. The student should cultivate his mind by the study of Bramante, Inigo Jones, or Sir William Chambers for instance—how they drew and thought, and what detail they loved. In doing that the student would begin to draw, think, and love as did those masters, and a new world would be opened to the student, *i.e.*, the world of antiquity. It was not open to the modern architect, but it was open to the student.

In addition to the names he had already mentioned there were Piranesi, Brunelleschi, William Burges, Alfred Stevens, and he would mention William Blake, and the architectural backgrounds of Holbein. The student should avoid the commonplace and the conventional, and be academic, grand, and graceful. He should remember that it was an unreal building that he was engaged on and yet he must make it real with architectural life. There was plenty of liberty for ideas: if they had to design a national monument expressive of gratitude for victory without the employment of sculpture, how would they start? They ought to be able to deal with it, because the opposite proposition, a national monument expressive of grief and mourning appealed to the imagination at once. The study of decorative art was useful to the architect in this connexion, for the decorative artist, especially on the continent, had the knack of expressing such ideas—the love of country, or a prehistoric race, for instance.

Whatever the student did, he should not trouble himself in the least about the assessors. He should not trouble whether the men who were going to judge his work cared about this, that, or the other. That was the bane of the competition system in real life. In studentship work what was important was what the student liked and wished. The student, moreover, should remember that in the event of his design failing to move the assessors, he had the chance of publishing his own design and confounding their award: the publishing of designs was an effective way of influencing opinion, and putting on record accomplished work. Labour was not only its own reward, for if the student worked on a definite line of his own, fame would come, and perhaps some day an opportunity of carrying out his cultivated ideas, which had been growing in his mind from the moment they were conceived. But all successful students were not successful architects, though, of course, there were some who were. Mr. Norman Shaw took the Royal Academy gold medal with a commonplace academic design. Mr. Ernest George got the same prize shortly afterwards. The word "student" had a relation to its end which was study. They must bear in mind that they were not studying to gain the prize or the medal: they were artists studying art for the sake of art, and as such were willing, under these conditions, to compete with others. They were servants of the art, and would continue to be so whether they got the prize or not. Competing for the prize was an opportunity for opening up and revealing the resources of an art which wonderfully exhibited the nature and aspirations of man. The greatness of architecture would possibly never appear so vast as when they took up design, as students, for design's sake—for the sake of proving its delights and pleasures. They should work with eagerness, but actuality; with enthusiasm, but with completeness. They would be lifted above mere office routine, or baser designs, with minds delighting in the cultured vision of sweetness of proportion and form, and would prove, what he believed to be a fact, that if they cultivated the memory of architectural form at the same time as they cultivated design, they would find that design would operate in their memories upon the forms with which they had stored it. If, when they saw something beautiful, they stored the impression in their minds, some day it would influence them in their design, for the idea would mature in their brain. That was a process that was necessary to any lofty view of architectural art—to progress, really, in architectural art. His advice to them was to get the imagination to operate on the last step in architecture; to try and do something better than had been done before. There were grandeurs of expression of which this unspeakable art was capable, like music. They could not describe the impression produced on their mind by the Pyramids, the Pantheon, St. Peter's at Rome, or St. Paul's or Westminster Abbey at home, though that was their fault.

The Chairman said the interesting addresses they had heard appeared at first sight to contain conflicting advice, but he thought they could be reconciled in their teaching.

Mr. H. L. Florence, in proposing a hearty vote of thanks to the speakers, said that the first address was taken up principally with the word "don't," and the second with the word "do," and he thought there would be some difficulty in reconciling them from that point of view; but the spirit was practically the same in both. Professor Pite went very much more into detail than into the broad principles dealt with by Mr. Schultz. He thought that Mr. Schultz's address was more important to competition judges and committees than to the students. Unfortunately, the views of such committees were too often formed on some of the effects of a drawing, and were the result of

personal admiration. Consequently, he thought the principles contained in Mr. Schultz's address deserved considerable attention. At the same time, he had more sympathy with Professor Pite's remarks. In preparing drawings in competition for prizes, students should show in invention what imagination they possessed, and not merely the dry facts of construction or æsthetic principle. He was not disposed to quarrel with Professor Pite for expressing what at first sight appeared to be extravagant or impossible views. On the practical side it was necessary, before students' drawings could be proceeded with, that the student should be a draughtsman first, and he was always sorry to hear anything said which tended to undervalue the mere fact of draughtsmanship. It should always be remembered that the means by which an architect conveyed his ideas to others, and sometimes even to himself, was by paying attention to the way he could best represent them on paper. Draughtsmanship was necessary to the architect for his own knowledge and for the purpose of showing his intentions to others, especially if suggestively drawn and not merely with the hard and fast lines of pencil. As to the preparation of drawings, the brush gave a freedom and breadth of view which could not be obtained by pure line drawing, and this was particularly useful when the student came to design ornament on those graceful features which helped to make architecture a fine art. There was no doubt a great deal of truth about what Professor Pite said about india-rubber, but nothing had been said about the use of tracing paper. He had always found tracing paper as useful as india-rubber, over which it had this advantage, that it enabled one to preserve first and subsequent ideas. It was interesting in that connexion to note that often when a subject had been well considered, the first idea was often the one adopted, and if preserved on tracing paper it proved of great use to them. In reference to the use of the brush, it would be of great advantage to the student to take a plain piece of paper and shade it with the brush from black to white from top to bottom. It was a difficult thing to do, but when they learnt how to do it it was of much use to them later on in getting a disposition of light and colour.

Mr. W. J. N. Millard, in seconding the vote of thanks, said it was, as he expected, difficult for the lecturers to adhere to their title. Mr. Schultz, although he said something about drawing, told them principally how to set about making a design, and Professor Pite told them both how to make a design and how to draw it. He was very glad that this had been so, for it had enabled the lecturers to give some very interesting views, and especially in the way of self-revelation. In thinking about drawing, he was reminded of early days when there were two schools of drawing and two schools of architects. The battle of the styles was then not quite fought out, and the two schools of drawing—the schools of Street and Burges—practised respectively thin lines and thick lines, and it was his fate to go from the office of one to the office of the other. It was then that he began to doubt if it really mattered whether one drew in thick lines or thin, so far as the architecture was concerned, and he had been thinking that ever since. As to the use of india-rubber, there was a legend that Street never used india-rubber. He (the speaker) knew that Street did, because he had seen him use it, and he wished he had used it more. He never knew him revise details unless the whole work had to be cut down. He worked in that way in all his work and with the idea of not revising it. He (the speaker) did not think that an example for all to follow, and he, personally, agreed with Professor Pite when he said, "revise and refine." Architectural drawing was merely the production of diagrams. Unfortunately, a great deal of architectural drawing or draughtsmanship ought only to be called penmanship, for it was playing about with a pen on paper and the worship of dots and dashes. He would not call it draughtsmanship, and it was certainly not architecture. As to pretty sketches, if a sketch happened to be pretty he did not think it was necessarily any the worse for that; the point to consider was whether the sketcher had put anything into his mind in doing his sketch, and if he had done so he did not think he need be blamed just for making his sketch pretty.

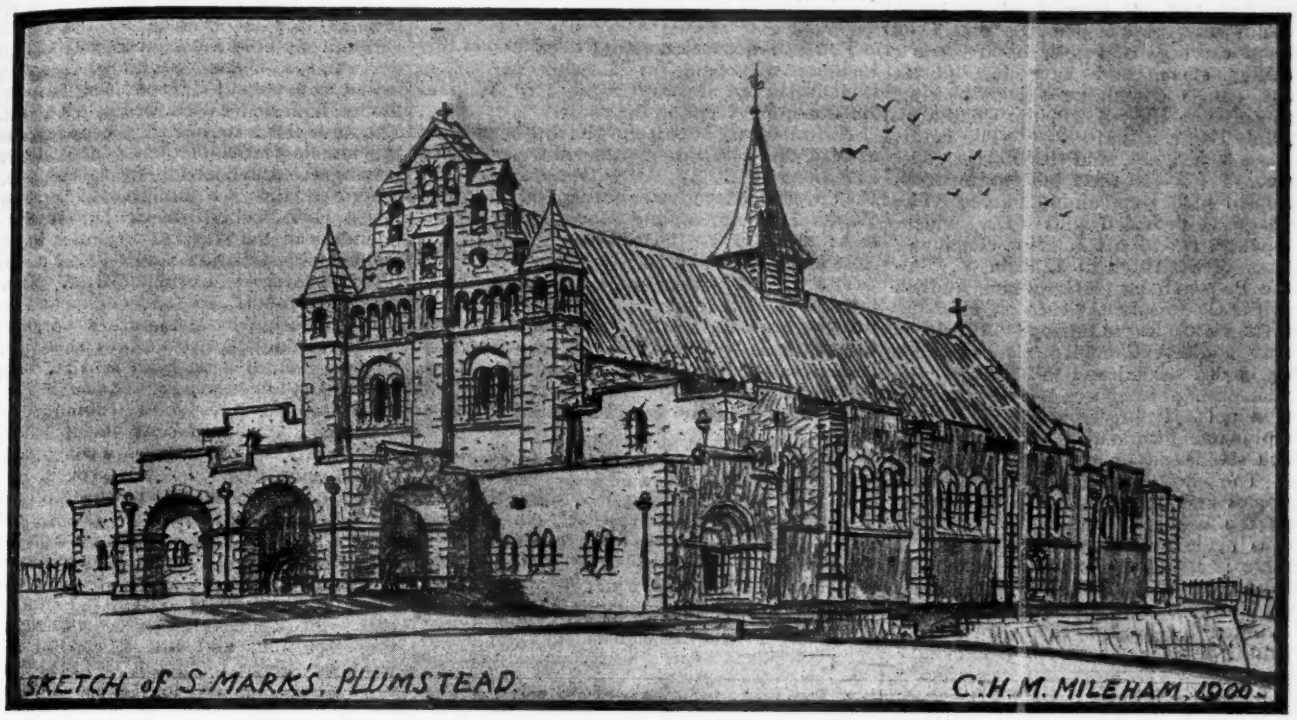
Mr. F. G. F. Hooper said he should like to urge students when they were looking at drawings, either of executed or contemplated work, by men who had made their mark, to do so more with the desire to see what was good in them than what was bad or weak. He thought there was a tendency with some students to do too much sketching—sketching of pleasing bits—to the neglect of measuring, and he was glad to notice that students were being encouraged in competition conditions and in other ways to do measured work. Men were apt to deceive themselves by making sketch elevations from the ground, though they no doubt got a certain degree of accuracy. It was essential to study effects and how they were obtained, and that was possible only by means of measuring. He had just been looking at a young fellow's design for a building on a rather important site in London; the cornice was put at such a level that the blocking course was completely hidden, as also were the dormers, a careful Mansard roof treatment, and an angle turret. In street architecture it was important for men to appreciate that their work would rarely be seen from a distance.

Mr. Arnold Mitchell said he thought that in one respect the advice of Professor Pite was hardly of the soundest, viz., that the student should regard his competition drawings as his ultimate object. Apparently, according to Professor Pite, a student might neglect entirely the real effect of the building so long as the competition drawing was pleasing and delighted the eye. That did not seem to be the soundest advice to put before students. It was surely necessary to think a building out in the solid—to think of it as it would really appear if put up; and a drawing prepared with that idea, and one which expressed that, would surely do the student most good, and would at least stand an equal chance of winning the competition. He thought that in doing such work they must assume that the building would be erected, and it was only by doing that that they could make the best of their work. As to the Institute competitions, a student who was competing should make up his mind that he would win, for in that belief he would feel an enthusiasm which would help him very much indeed. Students often spoke of their chances in a hopeless sort of way—"So-and-so is in for it, and I have no chance," for instance—and it was half the battle to make up one's mind that one was going to win, though, of course, no stone must be left unturned in order to attain that end. A student must use the best paper, &c., must use his india-rubber, and must draw with the greatest care, because there were others competing who would do all this. He was much interested in Professor Pite's remarks as to measured work. It seemed to him (the speaker) that the Measured Drawings competition was the first that the student should take part in. All would agree that the study of old work was essential, and he could think of no better preparation for future designing work than the careful study of some building. In doing measured work, in order to overcome the difficulty one often experienced in measuring old buildings, in regard to the varying levels of the ground—he had experienced great difficulty in getting accurate drawings of a building owing to varying levels of the ground—he made it his first work to take a short piece of straight board and to put a spirit level on it, and with a piece of chalk mark a level line round the building externally. Measurements up and down could be obtained from this line.

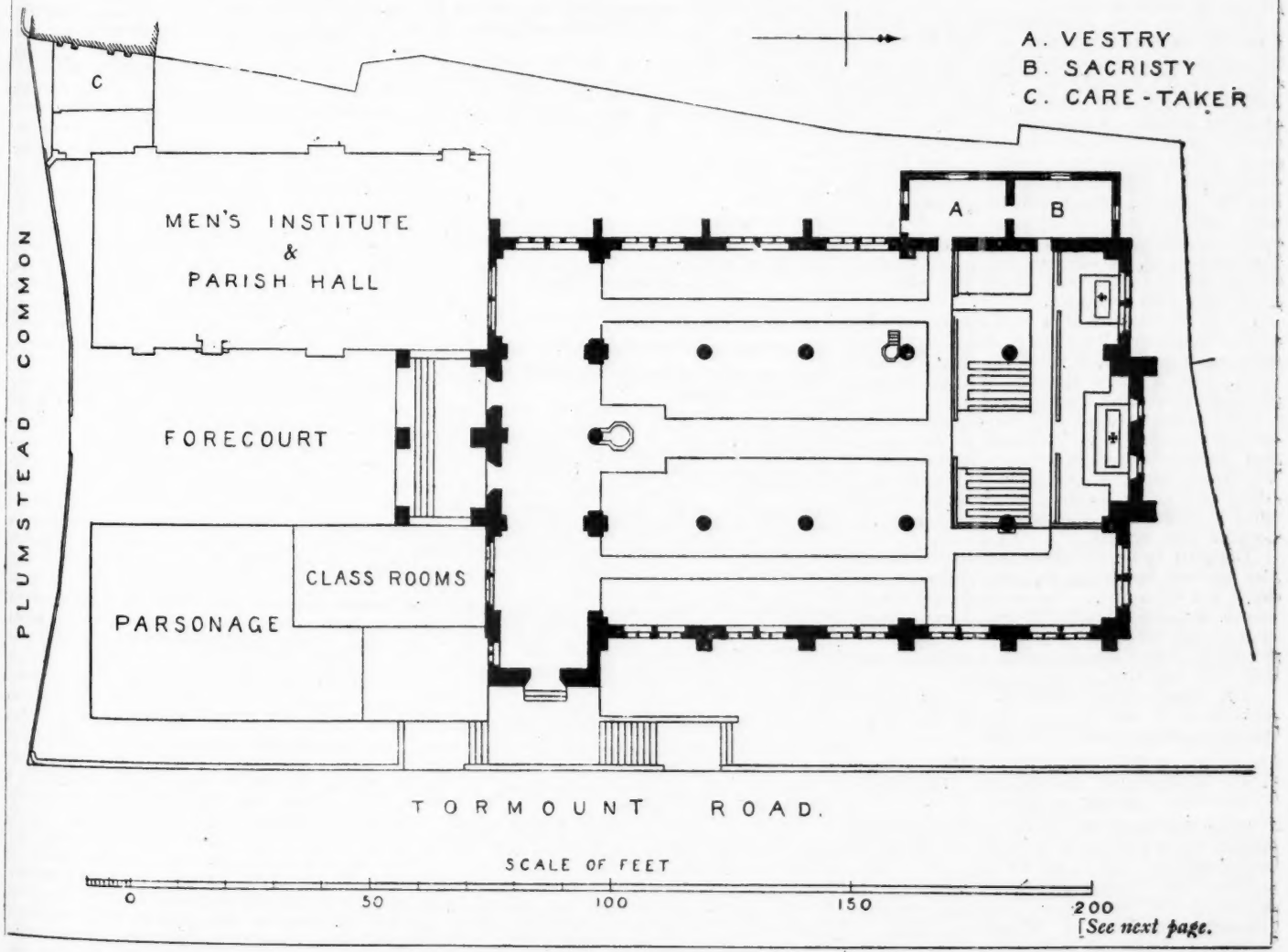
The Chairman said that the main point of Mr. Schultz's address was that students must prepare for practical work, and in his (the Chairman's) opinion that idea was running through Professor Pite's remarks also, and in that way, perhaps, they might be able to reconcile apparently conflicting opinions. It was desirable that the student should bear in mind Professor Pite's remark that he should not trouble in the least as to the views of the assessors; but he (the speaker) might say in that connexion that a judging committee valued thoroughly—he spoke as one of the Architectural Association Competition Committee—the power of imagination which some students displayed, and that power was made a great factor in the decision. At the same time, they looked at a design as a study by one who was preparing for practical architecture: they studied the plan, and noted what mastery a student had of building construction. Those two points of view were, in his opinion, essential. As to the bad influences which had led to the unsatisfactory state of architectural training, referred to by Mr. Schultz, that indicated the great importance of keeping the teaching of the profession in the hands of the profession as far as possible. Architects who had had practical experience of designing were the only people who could properly control the education of the architectural pupil. Even architects were led away, with the result that there were many schools, but on the whole teaching by architects would produce the best results, and hence the great importance of the Association retaining its position as the principal teaching body for London. In reference to Professor Pite's interesting remarks as to scraping and rubbing, he (the Chairman) was looking the other day at the Rembrandt etchings in the British Museum, and he would advise all those who had not done so to go and look at them. They there saw the growth of some of this great master's pictures, and in one—"Christ being Brought out Before the People. After the Judgment"—Rembrandt showed what he thought was a representative crowd looking on in a jeering way. The artist was apparently not satisfied with that, and in other proofs he treated the crowd differently, and finally left it out altogether, adopting a different treatment. It was an interesting example of how a great artist would rub out and alter again and again. An artist told him recently how much advantage he had derived from practising not allowing his fingers to rest on his paper or canvas—sketching architecture freehand. That was difficult to do, but it was a point worth striving after. He was not altogether in opposition to the making of pretty sketches, for as architects had to cultivate beauty in every line, it was very desirable to make a sketch of anything which was beautiful in order to cultivate the sense of beauty. Students should not make such sketches often, however, nor instead of a practical study of architectural subjects; but they should make such sketches occasionally so as to get into the artist's freedom of line apart from the architectural. Mr. Brydon, in his recent paper in the Institute *Journal* on the late William Young, the architect of Glasgow Municipal Buildings, mentioned the fact that Mr. Young came out last in the first competition for that building, and when he was asked if he would, in those circumstances, compete in the second competition, replied: "Yes, the first shall be last." That emphasised what Mr. Mitchell had said as to determination to succeed, and that was the spirit which would lead to success.

The vote of thanks having been put to the meeting and very heartily agreed to,

Mr. Schultz, in reply, said that in spite of what Professor Pite had said he was not converted; nor did he think there was any need for conversion, seeing that the Professor had asked them to ignore assessors, and do exactly what they pleased in their student designs and not to compete for the mere sake of winning the prize. Those were the ideas he (the speaker) had tried to give expression to. As to the idea that students should design in a style, he supposed that the students might do that in the same way that boys at school wrote Latin verse; it was easy to learn to design in a particular style, but somehow, if they did that, the tendency was for them not to get beyond it. If they once made their architectural compositions in an archæological manner, the inclination was to go on doing so, whereas if they began at the root of architectural design and studied materials and proportion, they would do something which would be worth looking at. It would be modern, too, and not done simply because two or three hundred years ago the same sort of thing was done. As to the drawing materials a student should use, he did not think it mattered in the least whether they used dark ink or light, or thick lines or thin, whether the drawing was mounted on brown or white paper, or no paper at all; all that did not affect the result, and he did not think that the judges considered those points. When a student began the study of a subject, of course it was necessary to look up examples and find out how, for instance, such buildings as town halls or hospitals should be arranged; but even here it would be best to get such information from the practical side and not from books. After he had got all the necessary information, he should start afresh, begin at the beginning, and think the matter out. He thought that Burges's architectural drawings were about the finest examples that existed, and he would advise all students who



NEW CHURCH OF S. MARK PLUMSTEAD.



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were goin g in for making measured drawings of old build ings to study Burges's book entitled "Architectural Drawings," and to note especially how carefully he had gone into minute details of construction and craftsmanship with evident enjoyment, and yet had not ignored the essential elements of draughtsmanship.

Professor Pite, who also replied, said he was for actuality and reality, and not for the sham and the fraud. It appeared that Mr. Schultz wanted the student to study materials, but he did not see that the materials were ink and paper, &c. If a man would be real, he had to work with such things and send in drawings only if he went in for studentship competitions.

The Chairman announced that the next meeting would be held on the 18th inst., when Mr. Edwin T. Hall would read a paper on "Flats," illustrated by designs of flats in London, Paris, and Vienna.

The meeting then terminated.

Illustrations.

FONT COVER, GRANTHAM PARISH CHURCH.

THIS font cover was placed to commemorate the Jubilee of the Queen. The font itself is a beautiful example of fifteenth-century work. It is octagonal in plan, and each side of the bowl is carved in high relief, a winged figure standing at each angle. Beneath the bowl appear various emblems and devices, and on the shaft are figures placed under canopies; but in consequence of mutilation the only clearly identified image is that of St. Andrew. The Rev. D. Woodroffe, in his interesting booklet, "Half an Hour in Grantham Church," observes: "The occurrence of the Tudor roses and the emblem of the Corpus Christi point very emphatically to Richard Fox, Keeper of the Privy Seal to Henry VII. and VIII., and Bishop of Winchester, as the donor."

The font was placed some thirty years ago at the west end of the nave, standing only

upon one low step, and much of its beauty was therefore lost. It now stands on three steps, with the result that the detail of the ancient carvings is well seen. They are of Ancaster stone, and have inscriptions and sunk panels containing shields bearing emblems of the Holy Spirit, the Church of Christ, Holy Baptism, and Purity. The cover, which rises some 26 ft., is in three stages, and mainly consists of elaborate tabernacle work, and canopied niches containing figures. The lower stage is provided with doors, which, being opened, reveal the interior, containing the figures of St. Hugh of Lincoln, St. Wulfram, the Patron Saint of Grantham, and St. Edward the Confessor. At each angle of the various stages are carved wings with niches containing angles. Canopied niches are introduced in the second and third stages, the former containing the figures of saints and the latter of angels. Rising from this is a large carved pinnacle terminating with a pedestal, on which stands an angel with wings outspread. The whole is of English oak, stained, the canopies and carved work being emphasised by the use of gold and colour. The cover was made by Messrs. Rattee & Kett, of Cambridge; Mr. Bridgeman, of Lichfield, carved the figures; Mr. Powell, of Lincoln, executed the decorative painting. The steps were worked by Messrs. Rudd & Son, of Grantham.

W. J. TAPPER.

ST. MARK'S, PLUMSTEAD.

THIS church is designed by Mr. C. H. M. Mileham, to be built on a site on the north side of Plumstead Common; on which also a men's institute, parish hall, classrooms and parsonage are to be erected.

The church is to accommodate more than 1,200. It consists of a nave and aisles of five bays (part being screened off for a chancel and a chapel) and a low aisle or galilee at the south end, a vestry and sacristy, with heating-chamber under. The galilee is extended to form a porch at the south-east angle, and to the south of the galilee is a porch of two bays, covering the steps from the forecourt down into the church, from which the floor of the nave falls towards the chancel—for the site falls considerably towards the north, and the Tormount-road, on the east side, has a very steep gradient in the same direction, rendering a retaining wall necessary.

The architecture is of a very simple round-arched character; the walls to be of concrete with inner and outer skins of rough brickwork, and a very sparing use of stone, plastered inside and roughcast outside.

The whole building will be covered with concrete vaults; a plain barrel to the nave, and Roman intersecting vaults to the aisles. The barrel vault of the nave will carry an outer roof of fir purlins and rafters, covered with pantiles. All the other vaults will be covered with asphalt.

The plan and view show the disposition of the various buildings, the view being taken from the Common. The institute, dwelling-house, &c., are intended to be of very plain and simple work suitable to their purposes, the walls being covered with roughcast and the roofs with tiles, as to the church.

The small rough sketch is a view of the church as it will appear before the other buildings are erected on the site.

THE WARWICK CHANTRY, TEWKESBURY ABBEY.

THIS fine example of Perpendicular work stands under the first arch on the north side of the presbytery east of the "crossing." It was erected by Countess Isabel Despencer in memory of her first husband Richard Beauchamp, Earl of Worcester, killed at Meaux in 1421, and is called the "Warwick" Chantry as the Countess afterwards married Richard Beauchamp, Fifth Earl of Warwick. She died in 1439, and was buried in the centre of the presbytery before the high altar.

The chantry is remarkable for the delicacy of its vaulting and other carving. The western half is divided into two stories, the lower supported by two slender columns. Its position, and the other elaborate monuments in this part of the church, are shown on the ground plan, published in the *Builder* December 1, 1894.

The drawings were made by Mr. Kotaro Sakurai, a Japanese architect, who was for some time resident in London, and who is an Associate member of the Institute, though he has now returned to his native country.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE fifth general meeting (business) of this Institute was held on Monday at No. 9, Conduit-street, Regent-street, Mr. William Emerson, President, in the chair.

The minutes of last meeting having been taken as read, the following gentlemen were elected as *Fellows*:—Mr. W. Aston, Manchester; Mr. F. O. Oertel, executive engineer, Indian Public Works Department, and Government architect; and Mr. T. B. Whinney, London. As *Associate*:—Mr. F. M. Harvey, Great Yarmouth.

The Chairman then moved the adoption of the amendments and additions in the paper of "Suggestions for the Conduct of Architectural Competitions." The revised paper, which was printed in our issue for December 29 last, was adopted after amendments to clauses 2, 4, and 8. Those clauses now read as follows:—

2. The duty of assessors should be—
   (*a*) To draw up the particulars and conditions (as far as possible in accordance with the principles set forth in these suggestions) as instructions to competitors, and to advise upon the question of cost;
   (*b*) To determine whether the designs conform to the instructions and to exclude any which do not;
   (*c*) To advise the promoters on the relative merits of the designs admitted to the competition, and to make a selection in accordance with the conditions.

4. The number and scale of the required drawings should be distinctly set forth, and they should not be more in number or to a larger scale than necessary to clearly explain the design. Perspective drawings are not necessary, but if the assessor advises that they are desirable, it should be so stated; and such drawings should be uniform in size, number, mode of colouring, mounting, or framing (if any), &c.

8. Where a deposit is required for supplying the instructions, it should be returned either on the receipt of a *bonâ fide* design, or, if the applicant declines to compete and returns the said instructions, within a month after their receipt.

The Status of the Profession.

The same meeting resolved that a committee be appointed to inquire into the status of the architectural profession, and to suggest remedies if needed.

GLASGOW ROYAL INFIRMARY COMPETITION.

THIS competition has excited much public and professional interest.

Ten firms of architects were invited to compete, each receiving a premium of 100*l*. The committee sent along with the conditions plans for the reconstruction, drawn to a scale of 20 ft. to the inch. These consist of alternative plans embodying the ideas of the Medical Staff as to classification, &c. The one which seems to have found most favour with the competitors is Scheme No. 5, which consists of five different blocks. Block A is placed at the north end of the site and six stories in height; this to be used entirely for surgical wards and the necessary adjuncts. Block B, six stories in height, is placed on the south side of the site facing Cathedral-square, it being asked that the façade to the square should, by the character of its architecture, be commemorative of the Diamond Jubilee of the Queen; the ground floor of this block being used for administrative purposes, while the five upper floors are intended for medical wards.

Block C, also six stories in height, is placed in the centre between the medical and surgical wards, and on the east side of the site as far back as possible from Castle-street. The ground floor of this block to be used for administrative apartments, the top floor for kitchen and stores, and the four intermediate floors by wards for special diseases. Block D, one story in height, is placed on the west side of the site, on the building line of Castle-street, near medical ward, to be used as isolation wards. Block E, one story in height, is on the building line of Castle-street, near surgical ward, to be used as gatehouse containing emergency wards.

Scheme No. 3 shows a method of arrangement which has only been followed by one competitor; it consists of six blocks. Block A, on the north end of the site, runs east and west, is intended for medical wards; it is five stories high. Block B, to the south of A, is five stories in height, the three upper floors being for male surgical wards, the first floor for special diseases, and the ground floor for administrative apartments. Block C is similar to B, except that a portion of the ground floor is occupied by the gatehouse. Block D is placed between B and C, running north and south, facing, but some distance back, from Castle-street; it is six stories in height, the top floor being used for kitchen and stores. The three floors immediately below contain all the female wards of the six surgical services, leaving the first floor for special diseases, and the ground floor for administrative apartments. Block E is behind block D, on the east boundary of the site, is two stories in height, and contains isolation wards—male on ground floor and female on upper floor. Block F, between D and E, contains engine and boilers.

In the design by Mr. James Millar, accepted by the committee, two designs showing alternative schemes have been sent in. The one understood to be the accepted one follows very closely on the lines of the committee's plan, Scheme No. 5, so far as the position and arrangement of the blocks are concerned, only details being changed and improved.

There is, however, one thing entirely left out in this plan, namely, fire escapes, and the matron's parlour, bedroom, &c., are on the fifth floor; those might have been placed in a more convenient position. The kitchen is on the top floor, the food being conveyed to the various blocks through covered passages on roof. The roofs are flat, and intended to be used as gardens where patients can sit in the open air.

The buildings are in the Baronial style of architecture, and flanked at the corners by round towers, which give a fine effect to the exterior, but the circular plan does not lend itself so well as a square turret to be divided up for water-closets and bathroom. In the centre of the Cathedral-square front there is a tower rising to a height of about 160 ft., and no ornamentation being indulged in; the whole of the effect is got by large masses.

This design is accompanied by three very powerful and artistic perspectives.

The design by Mr. H. E. Clifford was placed first by the assessor, and follows the lines of the plan issued by the committee, Scheme No. 5, except that the author has attempted to improve the courtyard to Castle-street in working the gatehouse into the ground floor of medical block. The isolation block is placed fronting Castle-street, and equidistant between the medical and surgical wards, which would certainly improve the air space. The operating theatre might with advantage have had more adjuncts, there being only a splint-room, a microscope-room, and a sterilising-room.

The elevations of this design have been very successfully treated, and in outline it follows the present building, making one feel that the author in the new design has graciously considered the beauty of massing, which characterises the existing front by Adam, and we again see the beauties of the old façade adorned and lighted to suit modern requirements.

In the design by Mr. A. Hessel Tiltman, placed second by the assessor, the author, like most of the competitors, has had the courage of his opinions, and produced a plan quite different from either of the plans sent out by the committee. The arrangements show considerable originality and knowledge of hospital construction, and had the elevation been equal to the plans, this design might have been placed in an even higher position by the assessor. The front to Cathedral-square is treated in the form of a circular Jubilee Ward, some distance in front and joined to the main building by a circular colonnade. The staircases are placed at the intersections, and give convenient access to all parts. There is through communication throughout. There is an operating theatre on each floor, and the adjuncts are very complete, including students' staircase, and this is got at the minimum of expense, as each theatre is over the other and one stair serves for all. The theatre has a north light.*

There seems to have been a doubt in the mind of most of the competitors as to whether shading would be allowed on the perspective, and the perspective accompanying this design seems to lose very much by being in outline.

Messrs. Watson & Mitchell, who have been placed third by the assessor, sent in two designs, A and B. The blocks in this design are entirely separate, but connected by underground passages, by which the food is taken to the various wards in trolleys. The

* A feature of this plan is the dispensary. It is placed in front of the gate on entering and underground, lit from roof and accessible to both out and in-patients, it is circular in plan.

plan A has circular wards; medical on north side, special on south, and surgical in centre. The existing St. Mungo's college is retained on the present site, and pathological buildings are provided within the grounds. The plan marked B assumes the removal of St. Mungo's College, and the placing of pathological buildings on some adjacent site where it could be connected by a subway under street.

The style of architecture adopted seems very suitable for a building of this kind, and the Cathedral square front satisfies the requirements.

Messrs. S. Mitchell & Wilson's design, placed fourth by the assessor, shows a plan with a corridor which runs north and south on the east side of the site; the wards are placed at stated distances on this corridor, on the west side towards Castle-street. The central block is used on ground floor for nurses' dining-room, entrance hall, doctor's and matron's dining-room, boardroom, superintendent's and matron's offices; the first floor for diseases of women; the second floor for throat, nose, and ear; the third floor for skin diseases; while the kitchen and stores cover the whole of fourth floor.

Two very carefully drawn and shaded perspectives accompany this design. The elevations are fine in detail but lack breadth.

Mr. Hippolyte Blanc's design is illustrated by very carefully drawn plans and elevations. All the wards are joined by a corridor and the blocks are well separated, but the corridor rising as it does the full height of the buildings would prevent the air from passing through the buildings. The blocks come very near Castle-street, and patients might be disturbed by the noise from the street. The operating theatre faces north, and has all the necessary adjuncts, and the doctors' rooms are well placed in an isolated position. The walls are flanked by octagonal towers, between which there is a verandah. The main entrance is from Cathedral-square.

Mr. J. J. Burnet has arranged his design with a large square on the south, with buildings on three sides and open to Cathedral-square; the plan is of an elaborate nature, but would necessitate the whole of the buildings being taken down at the same time. Some parts of the plan have been very carefully worked out in detail, and the buildings would probably have looked better when executed than they do on the drawings.

Messrs. Stark and Rowntree have followed very closely on the lines of the committee's plan, Scheme No. 3, and considerable ability is shown in the designs.

Mr. Percy Adams has a design with a corridor going from north to south, with the wards running east and west, the corridor would prevent the free passage of air as it is continued to the top floor. The administration is placed in the centre, between medical and surgical wards.

Messrs. Douglas & Morrison's plans have been remodelled on the lines of the committee's plan, Scheme No. 5, and the elevations are of a plain character.

It is to be regretted that plans were sent to the competitors by the committee, since, as in every similar case, it has only served to stifle originality.

MAGAZINES AND REVIEWS.

THE *Art Journal* contains an illustrated article on "Fez, the Capital of Morocco." The sketch of the entrance gate, by G. Montbard, the author of the article, is a fine piece of effect. The other sketches are mostly of types of the inhabitants. Mr. Lewis F. Day's article on "Mere Ornament" sets out with the position that ornament need not "mean" anything, so long as it is ornamental; in which we entirely agree. Mr. Day attacks in the course of the article some catchwords of art-criticism; one of these is "joyless." He points out that if it is true that ornament will not be interesting unless the designer enjoyed doing it, the converse does not hold good. It may have interested the designer and yet be interesting to no one else. Mr. Walter Crane contributes a short article on "Methods of Art-teaching," which is rather vague, but seems to aim at a condemnation of the system of teaching by drawing and modelling the figure, as the be-all and the end-all; "a stately method," he calls it, but destined to be superseded by the teaching of the crafts. This is the gospel of to-day, and one hears it on all sides; but this side of the matter is just as much over-emphasised by its votaries as the other side is over-emphasised in the South Kensington educational programme. The *Art Journal* continues its special Paris Exhibition supplement, of which this number contains articles on the French centennial exhibition and on the stained glass exhibits and glassware generally, much of which was of great interest.

The *Magazine of Art* contains an article on the new Louvre, *i.e.*, the Louvre as recently altered and added to, with an illustration of the fine Rubens Gallery, in which the paintings are made to fit into an architectural decoration specially designed for them; the work has been referred to and described more than once in our columns. Mr. F. Hamilton Jackson contributes an article on "The New Art as seen at the Paris Exhibition." What is called the new art, in furniture and decorative objects, appears to us to be little more than an eccentricity, the main characteristic of which is the abolition of anything like clean and symmetrical line, and the torturing of tables and chairs, &c., into unexpected sinuous curves. It is merely a kind of craze, which will not last long.

The *Studio* contains an article in praise of "Open-air Museums," showing old buildings re-erected, and other archæological curiosities which can be arranged in the open air; an idea which appears to have been really carried out in Norway and Sweden. It might be imitated in some one of the London parks. Mr. Prior's essay on "Garden-making" is continued, with illustrations, and there is an effective pencil sketch by Mr. Pennell, an "Evening Effect at the Paris Exhibition," and another of "Moonlight on the Thames," alongside of the Embankment and its lights, by Mr. O'Brien.

The *Artist* has an illustrated article of some length on Botticelli, by Miss Edith Harwood, written with special reference to the "Mars and Venus" picture in the National Gallery. The article, in both a critical and literary sense, is of considerable interest in regard to the *motifs* of some of Botticelli's works. The same number contains an article on the book-bindings of Otto Zahn.

In the *Berlin Architektur-Welt* is a striking sketch by Herr Schaudt of a "Helden-Grab" or tomb of honour, a purely architectural creation displaying a good deal of poetic imagination. The illustrations of the Golgatha-Kirche at Berlin, of which Herren Spitta & Wilde are the architects, show a fine piece of modern Gothic in brickwork.

The *Antiquary* continues the articles on "England's Oldest Handicrafts" and the "Quarterly Notes on Roman Britain"; the craft dealt with in this number being that of the potter, which is treated at more length than usual, as indeed its importance and antiquity demand. The curious font of Lost-withiel Church is the subject of an illustrated article; and Mr. W. H. Burnett contributes a short article on the ruins of Gogarth Abbey on the Great Orme's Head.

The *Nineteenth Century* contains an interesting article by Mr. John Collier on "Varying Ideals of Human Beauty." It is an endeavour to inquire into the question what type of human beauty was really the central and the admired one in different ages, and what was the relation of pictured types to the actual life around the artist. Do the Greek statues represent the Greek men and women as they did exist, or only as they would have wished to be? Mr. Collier's conclusion is that Nature was the model, though of course a selected model. He goes through the types of various schools of art, down to the present day when we have, as far as our art shows, no fixed ideal. We might have expected to find a word as to the very conventional ideals of Burne-Jones and Rossetti and their followers, but on this point the author is silent. In the same issue Mr. Henry Jephson makes a novel and eloquent appeal for a special celebration of the new century not by "a day of humiliation," as was the fashion of the old Evangelical party, but by "a day of purification," a day on which the whole nation should agree to be for once clean, and to get rid of all dirt in their persons and surroundings. His idea is that those who once entered into such a celebration might be led to continue in the same course. It is a fine idea, though we fear not likely to be acted on.

Macmillan contains an article by Mr. M. H. Witt, on "Two Great Pictures," one by Montagna, the other by Paolo Veronese, existing in the church of the Madonna della Monte at Vicenza. "Montagna was a citizen of Vicenza, its one painter of great note and originality, and it is in the churches and picture gallery of his native place that he may still be seen to best advantage in fresco and altar-piece." The article includes also a kind of literary sketch of the city itself.

The *Century* contains an article by Mr. E. V. Smalley on "The American Patent Office," which is of considerable interest as showing how they manage these matters in the States; better than in England, apparently, for the Government undertakes to ascertain for each "inventor" whether or not his patent is really new, or is a repetition of an idea already patented, instead of leaving the onus of this discovery with the inventor himself. The article is accompanied by some piquant illustrations of typical inventors and their interviews with the officials of the Department. The United States Patent Office is a sumptuous specimen of Washington neo-Greek architecture.

In *Scribner* is an article on "Modern Athens," its ways and its society and surroundings, interesting though rather disenchanting to those to whom the name of Athens calls up only associations with a great and poetic past. Athens seems to have a vigorous and lively present life, far enough removed from classic ideals.

The *Fortnightly Review* contains a long article by Mr. Arthur Symons on "The Painters of Seville," of whom he seems to have made a special study.

In the *Gentleman's Magazine* is an article by Mr. Percy Fitzgerald on "An Old High Town and an Old Palace," the two places being Boulogne and Kew. In the former town, it will be news to many readers, is a house with a marble tablet recording that here died "the celebrated English poet Thomas Campbell," driven to Boulogne, unfortunately, by debts and drink. Some of the recollections in reference to Kew Palace are of considerable interest.

The *Genealogical Magazine* contains "Records of an English Manor for a Thousand Years"—Thornbury Castle, with illustrations; also an engraving of the arms of the Royal Borough of Inverness, which offer the singular and rather profane combination of a shield bearing a representation of the Crucifixion, supported by an elephant and a camel *rampant*. As to the allegorical or heraldic significance of this extraordinary combination no hint is given.

Man is the title of a small new periodical published by the Anthropological Institute. Among the contents of the first number is a note, with an illustration, on a fragment of Etruscan pottery which, according to Mr. H. Balfour, the curator of the Pitt-Rivers Museum, seems to present something like the genesis of the Roman guilloche ornament, the fragment being mostly covered with double concentric circles interrupting each other by overlapping, while in one place the circles are so interrupted as to produce the "over-and-under" effect of the guilloche. We must differ from Mr. Balfour; the guilloche ornament is, according to the illustration, separated by two parallel lines from the rest of the field, and is obviously designed intentionally for the situation. The deduction made from it is therefore one that cannot be sustained.

Knowledge contains an article on a point which has been the subject of much scientific disputation, viz., the real size of ocean waves. The height is much less than is generally supposed, though we think all systems of measuring the height of waves must be subject to a large element of inaccuracy. The highest mentioned in this article is nearly 38 ft., and occurred in what the observers estimated to be the heaviest sea they had known. This agrees with Captain Scoresby's calculation, made many years ago, that the greatest height of waves from hollow to crest did not exceed 40 ft.

We have received also *Harper's Magazine* (containing this month nothing of special interest to our readers), the *Revue Générale*, *The Quarry*, and the *Architects' and Builders' Magazine* (New York).

THE NEW WAR OFFICE.—The building of the new War Office, which was commenced under the superintendence of Mr. William Young, will be continned under that of his son, Mr. Clyde Young. It is stated that Mr. Clyde Young will have closely associated with him the Board of Works' consulting surveyor, Sir John Taylor.

SANITARY INSPECTORS' ASSOCIATION.

A MEETING of the Sanitary Inspectors' Association was held on Saturday evening at Carpenters' Hall, London Wall, chiefly for the purpose of hearing the President's annual address.

Mr. W. H. Grigg, the Chairman, said it had been their invariable custom to listen to an address from their President at the first meeting in each year, but on this occasion their rule would be broken, because the President, who was unwell, was now abroad.

Mr. W. W. West, Chief Sanitary Inspector of Walthamstow, said the honour of giving the address at this first meeting of the year had been cast upon him, and his subject would be "Sanitary Politics in the New Century." It was unnecessary to recapitulate the work and the results of sanitary politics in the century just closed. During the latter half, since the agitation upon the subject was started by the earnest band of workers, of whom their two former presidents, Sir E. Chadwick and Sir B. W. Richardson, and their late hon. member, Sir H. Rawlinson, were among the most eminent, giant strides had been taken, and the work of remedying the bulk of the bad conditions which they called attention to had, at any rate, been put well on the way. Half a century was not a great period in the history of a nation, and the difference between the conditions prevailing then and now was a subject of intense gratification. Food, drainage, construction of dwellings, water supply, infectious diseases, and the rest of the matters with which they had daily to deal, had been taken in hand, and the grosser evils at any rate removed. Granted that in most of these matters vast improvement had been made, what was the question which most pressed for settlement? Well, as the dying German philosopher was said to have cried for "Light, more light," so the anæmic, enervated dwellers in our cities cried for "Air, more air." Overcrowding in cities and towns was the trouble. There had been an extensive reversal of our mode of life from the open air of the country-side to the close, crowded, unwholesome air of the towns. The suggestions as to a solution of the difficulty could be divided into two categories—those that aimed at modifying or palliating the unwholesome conditions, and those which dealt with them in a more radical method by abolishing the conditions. Undoubtedly, in default of removal, we should all assist to ameliorate, but the suggestions in the first category had all been tried, but on the whole with small success. Take the enactments as to overcrowding in rooms—in the first place the minimum air space allowed was necessarily fixed so low as to leave the great bulk of the trouble untouched, and then, owing to a multiplicity of considerations, experience showed that even with the most energetic and determined enforcement of the law the amount of such overcrowding was not materially lessened, as the cases were only transferred from one place to another. Again, in the erection of model or artisans' dwellings on cleared spaces, the overcrowding on area was not generally lessened, for the designers of the various schemes prided themselves upon the fact that they made provision for as many or more inhabitants than previously occupied the area by lifting them nearer the clouds. Accepting the contention that these methods, while ameliorating, did not comply with the fundamental principle of modern sanitation, which was prevention, they must come to the conclusion in favour of those suggestions which had in view the principle of spreading out, such as the erection of model villages in the suburbs, the provision of rapid, cheap transit, and the removal of many manufactories to rural districts. If they insisted strenuously in and out of season that the welfare of the people was the highest of all laws there need be no doubt in their hope that the century now commencing would be as full of advantages, or more so, than the last. Considerable public interest had recently been aroused by the agitation in favour of fresh air cure for consumption, and statistics had been presented showing the great number of cases existing in our cities, due, in the majority of instances, to the unhealthy state of the atmosphere produced by overcrowding. Fresh air was the cure and fresh air the preventive. Well might H.R.H. the Prince of Wales ask at a gathering of sanitarians, "If preventible, why not prevented?" Because the principles suggested were not realised or acted upon. There was no other law of sanitarians than the welfare of the people. They were told that these conditions were brought about by "economic laws." If so, the economy was a false one, and a new one should be put in its place. Men of all shades of political opinion admitted that the working of the existing land laws had a good deal to do with the propagation of the evils they were dealing with. Then the land laws should be amended in that direction. They would probably be told, as they suggested reforms which they saw to be necessary, that they were advocating rank socialism, but every one admitted that that was a generality, but those who were interested in maintaining the *status quo* objected to its special application. Eminent men of undoubted authority had repeatedly informed them that the cost of providing dwellings (in cities) in which the humblest of the people might live under conditions of decency was really in excess of the wages which they commanded. The subject of the erection of model dwellings in the suburbs had already been considered by the London County Council, and the admirable public spirit with which they had dealt with other questions justified them in hoping that the village they proposed to erect would be a model one—not a mere extension of the town. The roads would, of course, be of ample, even of generous, width; the dwellings roomy and substantial—a delight to the eye—let at a rental bearing a reasonable proportion to the earnings of the occupant, and such things as nuisances absolutely non-existent. They were often told of the immense amount of land which had gone out of cultivation in recent years owing to its being unprofitable to till. This being so, its value was small, and if utilised for small manufacturing towns, the lessened cost of land would compensate very largely for any increased cost of manufacture due to the distance from the metropolis or other centres of population and commerce, and certainly the *salus populi* would be immensely advanced in every way by the more healthy condition of mind, body, and estate, which were inseparable from life in a small centre of population as compared with life in vast cities. This solution of the trouble had already been carried into effect by some wealthy and public-spirited employers of labour. In these directions they must look for the prevention of the evils of overcrowding, and the arrival of that time which as officials of the present they could certainly contemplate with serenity, while as sanitarians they should hope and strive for, as was described in the following quotation. When the early pioneers of sanitation first advocated the appointment of sanitary officers objection was raised as to the cost of such procedure. To this they urged "That whensoever the proposed local conditions were effected and complete works laid down and put in action, public servants, by whom the work and consequent pecuniary savings and savings of life and health had been effected, will have comparatively little to do, and may change their sphere of action."

A vote of thanks was then passed to Mr. West, proposed by the Chairman and seconded by Mr. J. Young.

COMPETITIONS.

BATHS AND GYMNASIUM, DUNFERMLINE.—The committee invited competitive plans for the new Carnegie Baths and Gymnasium some time ago, and at a meeting on the 4th inst. Mr. William Reid, the secretary, intimated that plans had been received from the following:—Messrs. H. J. Blanc, Edinburgh; David Beveridge, Crossgates; T. Hyslop Ure, Dunfermline; Williamson & Inglis, Kirkcaldy; Ross & Macbeth, Inverness; Jas. T. Scobie, Dunfermline; Andrew Muirhead, Dunfermline; D. Barclay, Glasgow; W. Swinton, Dunfermline.

GLASGOW ROYAL INFIRMARY RECONSTRUCTION.—The designs of the competing architects in this competition have been on view within the City Chambers during the past week. The following are the authors, also the approximate cost of carrying out the respective designs, as estimated by Mr. Robert Whitson, the committee's measurer:—(A) Sydney Mitchell & Wilson, Edinburgh, 303,000*l.*; (B) Hippolyte J. Blanc, Edinburgh, 269,000*l.*; (C) Malcolm Stark & Rowntree, London, 252,000*l.*; (D) John James Burnet, Glasgow, 219,000*l.*; (E) James Miller, Glasgow, 241,000*l.*; (F) H. E. Clifford, Glasgow, 238,000*l.*; (G) H. Percy Adams, London, 245,000*l.*; (H) A. Hessel Tiltman, London, 321,000*l.*; (I) Campbell Douglas & Morrison, Glasgow, 225,000*l.*; (J) T. L. Watson and H. Mitchell, Glasgow, 235,000*l.* Plans marked (E) have, as already mentioned in our pages, been adopted by the committee as first in order of merit by 11 votes to 10 given for those marked (F). Dr. Rowand Anderson was the assessor.

APPLICATIONS UNDER THE 1894 LONDON BUILDING ACT.

AT the meeting of the Building Act Committee of the London County Council, on December 17, being the day before the Council adjourned for the Christmas recess, the proceedings were governed by the clause in the order of reference which empowers the Committee at certain seasons to act on behalf of the Council in relation to matters included in the order of reference. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated:—

Lines of Frontage.

Norwood.—A church on the south side of Thurlow Park-road, West Norwood, at the corner of Court-road (Mr. A. O. Breeds for the committee and managers of the West Norwood Presbyterian Church).—Consent.

Chelsea.—A one-story addition in front of the Swiss Cottage beer-house, No. 109, King's-road, Chelsea (Messrs. A. R. Barker & Son for Messrs. Michell & Aldous, Limited).—Refused.

Fulham.—A one-story shop on part of the forecourt of No. 10, Parsons-green, Fulham (Messrs. Hewison & Peacock).—Refused.

Kensington, North.—A one-story addition to No. 150, Holland Park-avenue, Kensington, to abut upon Norland-square (Messrs. E. & A. Swain for Mr. R. T. Swain).—Refused.

Projections.

St. George, Hanover-square.—That in accordance with the request of Messrs. Trollope & Sons for Mr. C. Czarnikow, the consent of the Council of November 20, 1900, to the erection of wood and glass inclosures to a portico at the entrance to No. 103, Eaton-square, St. George, Hanover-square, be modified by the insertion of the words "except the door and frame to inclose the front of the portico" after the words "that the whole of the exposed woodwork" in such consent.—Agreed.

Strand.—A balcony, at the first-floor level, in front of Nos. 5, 6, and 7, Chapel-place, Oxford-street, St. Marylebone (Mr. A. E. Hughes for Messrs. D. H. Evans & Co., Limited).—Consent.

Hammersmith.—A porch at the entrance to the Bush Hotel, No. 54 Shepherd's Bush Green, Hammersmith (Mr. W. M. Brutton for Mr. H. Buckler).—Consent.

Hampstead.—Wood and tile porches at the entrances to ten houses in course of erection on the north-east side of Fordwych-road, Hampstead (Mr. J. Phœnix for Messrs. Bridge & Neal).—Consent.

Woolwich.—Bay-windows to Nos. 1, 3, 5, and 7, Elderslie-road, Eltham (Mr. G. F. Logsdail for Mr. A. Cameron Corbett, M.P.).—Consent.

Width of Way.

Bermondsey.—A one-story addition in the yard of the stables at the rear of the Swan public-house, Old Kent-road, Bermondsey, at less than the prescribed distance from the centre of Comus-place (Mr. J. G. Ensor for Messrs. Watney, Combe, Reid, & Co.).—Consent.

Width of Way. Lines of Frontage, and Projections.

Westminster.—An overhanging angle-turret at the first and second floor levels of Nos. 17 and 19, Regency-street, Westminster, at less than the prescribed distance from the centre of Page-street (Mr. E. Dru Drury for Mr. J. V. Webster).—Consent.

Woolwich.—Nine dwelling-houses, with one-story bay windows, on the west side of Red Lion-lane, Shooter's-hill-road, Plumstead, with the forecourt fences and bay windows at less than the prescribed distance from the centre of Red Lion-lane (Mr. A. E. Parnell for Mr. J. Sanford).—Consent.

Hammersmith.—Two blocks of buildings on the west side of Ravenscourt Park, Hammersmith, each abutting on Hamlet-gardens (Mr. T. Athey for Mr. W. H. Gibbs).—Refused.

Space at Rear.

Strand.—A modification of the provisions of Section 41 of the Act with regard to open spaces about buildings, so far as relates to the proposed erection of two blocks of dwellings, adapted to be inhabited by persons of the working class, on a site on the west side of York-street, Drury-lane, Strand, abutting also on Drury-lane, and at the rear on a footway on the east side of the Theatre Royal, Drury-lane, such blocks of dwellings to be provided with an irregular space at the rear, and por-

tions of such dwellings to extend above the diagonal line directed to be drawn by Section 41 of the Act (Mr. J. Briggs for the Housing of the Working Classes Committee of the Council).—Consent.

Line of Frontage and Construction of Buildings.

Finsbury, Central.—A wood and iron engine-shed at the Sadler's Wells Theatre, Rosebery-avenue (Mr. G. E. Belmont).—Refused.

Width of Way and Construction of Building.

Southwark, West.—A block of artisans' dwellings on the north side of Sumner-street, Southwark, to extend over Martagon-place, such dwellings to exceed in height the width of Sumner-street and also of Martagon-place, and the erection of a play-shed at the rear of such dwellings (Mr. F. Bailey for the City of London Electric Lighting Company, Limited).—Consent.

Width of Way, Lines of Frontage, and Construction of Buildings.

Woolwich.—A water-tower on the north side of Shooter's-hill, Plumstead, with the boundary fence at less than the prescribed distance from the centre of The Avenue (Mr. T. B. Whinney for the Kent Waterworks Company).—Consent.

Islington, West.—An iron roof on the north-west side of Warlter's-road, Parkhurst-road, Holloway, at less than the prescribed distance from the centre of Warlter's-road (St. Pancras Ironworks Company, Limited, for Messrs. Beale & Co., Limited).—Refused.

Formation of Streets.

Clapham.—That an order be issued to Mr. W. N. Dunn sanctioning the formation or laying out of two new streets for carriage traffic on the west side of Clapham Common, Battersea (for Mr. T. Ingram). That the names Manchuria-road and Clapham Common West-side (in continuation) be approved for the new streets.—Consent.

Greenwich.—That an order be issued to Mr. W. J. Kemp sanctioning the formation or laying out of a new street for carriage traffic to lead from Woolwich Lower-road, Greenwich, to Halstow-road, and in connexion therewith the widening of a portion of Lower Woolwich-road (for Mr. H. Tarrant). That the name Chevening-road be approved for the new street.—Consent.

Lewisham.—That an order be issued to Mr. W. Barber, sanctioning the formation or laying out of a new street for carriage traffic, to lead from Bromley-road to Burnt Ash-lane, Lee, and in connexion therewith the widening of a portion of Bromley-road (for Mr. A. Durbin). That the name Heather-road be approved for the new street.—Consent.

Lewisham.—That an order be issued to Mr. J. W. Rhodes, sanctioning under the provisions of Section 10 of the London Building Act, 1894, the widening of a street, used for foot traffic only, known as Brockley Cottages, Malyon-road. Ladywell (for Mrs. M. E. Barnes).—Consent.

Cubical Extent.

Islington, West.—The raising of the roof of a building at the north-west angle of the Caledonian Saw-mills, No. 18, New Wharf-road, Caledonian-road, Islington, which building will exceed in extent 250,000, but not 450,000, cubic ft., and will be used only for the purposes of the trade or manufacture of sawing, planing, and moulding timber (Messrs. Haggis & Sons).—Consent.

Poplar.—An addition to the platers' shop at Messrs. Yarrow & Co.'s works, Manchester-road, Glengall-road, Poplar (Messrs. W. Whitford & Co. for Messrs. Yarrow & Co., Limited).—Consent.

Deptford.—The erection at the Hatcham Ironworks, Pomeroy-street, Hatcham, of an addition to a workshop (Mr. J. Donald for the General Engine and Boiler Company, Limited).—Refused.

Means of Escape from Top of High Buildings.

Strand.—Alteration in the means of escape in case of fire, proposed to be provided in pursuance of Section 63 of the Act, on the third, fourth, fifth, and sixth stories of an addition at the rear of the Grand Hotel, Northumberland-avenue, Strand, for the persons dwelling or employed therein (Mr. W. Woodward for the Gordon Hotels, Limited).—Consent.

Strand.—Means of escape in case of fire, proposed to be provided in pursuance of Section 63 of the Act, on the fifth, sixth, and seventh stories of an addition to the Hotel Cecil, on the site of Nos. 76 to 88, Strand, between Carting-lane and Ivy Bridge-lane, Strand (Mr. J. Sawyer for the Hotel Cecil, Limited).—Refused.

Buildings for the Supply of Electricity.

Hampstead.—A further variation (so far as relates to the water-softening house) from the plans, approved by the Council, for the construction of an extension to the electricity generating station and works, Lithos-road, Hampstead, abutting on a footpath between West End-lane and Finchley-road (Mr. J. Hudson for the Metropolitan Borough Council of Hampstead).—Consent.

Lewisham.—The application of Mr. A. L. Phillips for the Crystal Palace District Electric Supply Company, Limited, for the rebuilding of a generating station and works at Springfield-road, Wells-road, Sydenham.—Agreed.

Wandsworth.—The application of Mr. C. S. Peach for the County of London and Brush Provincial Electric Light Company, Limited, for the construction of a temporary sub-station on the north side of Yukon-road, Balham High-road, at the corner of Lynn-street.—Agreed.

Dwelling-houses on Low-lying Land.

Woolwich.—That the solicitor do prepare a licence under Section 122 of the Act, to Mr. S. J. Driver, for the erection of sixteen buildings, to be used wholly or in part as dwelling-houses, on low-lying land situated on the south side of Abbey-grove, Abbey Wood, Plumstead, in accordance with the tracing submitted on his behalf by Mr. T. J. Young.—Agreed.

BOOKS RECEIVED.

THEORY OF ENGINEERING CONSTRUCTION. By Ernest H. Essex, A.M Inst.C.E. (The St. Bride's Press.)

LOCKWOOD'S BUILDER'S AND CONTRACTOR'S PRICE-BOOK, 1901. Edited by Francis T. W. Miller, A.R.I.B.A. (Crosby Lockwood & Son)

Correspondence.

To the Editor of THE BUILDER.

"CHURCHYARDS AND THEIR ACCESSORIES."

SIR,—All interested in "God's Acre" must be much indebted to Mr. Crawfurth Smith for his interesting paper, and to yourselves for publishing it in its entirety. But when discussing God's-Acre from the æsthetic point of view, one cannot but wish that Mr. Crawfurth Smith had raised his voice much more forcibly against the vulgarities which are erected in our churchyards.

What is wanted is a Cromwell in criticism, who would teach them to get rid of these baubles of bad taste. Only by forcibly speaking can this be done. The majority of our monumental masons can neither produce anything good, nor even appreciate it. In a suburban cemetery it was my good fortune to see a beautifully proportioned cross—simplicity in itself, without any moulding or chamfer on it, and upon my expressing admiration of it, the reply from the mason was, "I don't think so; and that is the thing I was sent down to Bournemouth to measure up."

So bad is our monumental work that I have become desperate. I say to the monumental mason, First learn to appreciate what is good; then, if you cannot design what is beautiful, steal it, but don't produce bad work.

What I would venture to suggest is that a member of the Association should read a paper, illustrating it with examples of our monuments, good and bad, and that monumental masons should be invited to attend. THOMAS G. GETHING.

COLLUSION AMONG CONTRACTORS.

SIR,—As a regular reader of your valuable paper, I should like to draw attention to a matter which I have not as yet seen touched upon in any journal devoted to the building trade.

I refer to the practice of some builders—made easier when only two or three are in for the work in question—of buying each other out, and arranging that one of them shall, for certain sums paid to his competitors, be allowed to get the work.

Naturally the successful one, knowing beforehand that his will be the lowest tender, makes his price right, as besides his own profit he has to pay to his (supposed) competitors the amounts agreed upon.

I do not think the practice is common, but I have come across it on a few occasions. It seems to me a serious matter and one worthy of attention.

A SUFFERER.

FOOTWAY MASONS' AND CARRIAGE-WAY PAVIORS' SOCIETY.

SIR,—In your issue of the 22nd ult. in your report of the London County Council you report us as asking for the hours of labour to be amended.

We beg that you will contradict the report. All we have asked for is that the Council will pay us our trade union rate of wage.

W. LEARY, Gen. Sec.

*** We took the statement from the County Council's agenda paper.—ED.

HALIFAX TOWN HALL.—Mr. Joseph Parkinson, of Lancaster, writes to us in reference to the tower of Halifax Town Hall which was illustrated in our last issue, that the spire panelling was originally covered with encaustic tiles, but before 1870 (at which time he was serving his articles in Halifax) these tiles had begun to fall off, and it was considered advisable to remove them and replace them with stone facing.

The Student's Column.

SANITARY FITTINGS AND PLUMBING.

2.—SANITARY-ROOMS.

THE diverse character of sanitary fittings necessitates considerable difference in the location and arrangement of the rooms in which they are placed, but certain general rules are applicable in every case. The most important points to be observed are plenty of light and, if possible, of direct sunlight, ample means of ventilation, impervious surfaces (at any rate, immediately around the fittings), convenience of position and plan, and (for certain fittings) privacy. If the rooms for the different fittings can be grouped together in one part of the building, although, perhaps, in two or more stories, it will be not only economical, but advantageous in other respects.

First, as to light. No sanitary fitting ought to be fixed in any room which is not properly lit by one or more windows or toplights. Borrowed lights ought not to be tolerated as the sole means of lighting sanitary rooms. The windows or toplights must be made to open, and must be of ample size. The common allowance of 1 square foot of window space to every 10 square feet of floor area is far too little for rooms containing sanitary fittings, even if the net area of the glass is taken as the basis of the calculation. For example, many water-closets measure only about 5 ft. 6 in. by 2 ft. 6 in., giving an area therefore of 13¾ square feet; according to the rule, a window with a net area of about 1½ square feet ought to suffice. We need hardly point out that such a small window would be quite unsatisfactory; if placed near the ceiling it would not light the closet-basin or the floor, and if placed in the lower half of the room it would be of little use for ventilation. What is wanted is a window extending practically up to the ceiling, so that the air in the upper part of the room can be thoroughly changed by opening the window, and extending so low as to throw a direct light on the floor of the room and on the closet-basin, and seat. The width of the window ought to be such that the light is well distributed throughout the room. The area of the window in a small water-closet or housemaid's closet ought to be at least half the area of the floor. The proportion need not be so great for larger rooms, but much will depend upon the shape of the room and the position of the window or windows.

Ventilation is a most important point. The sanitary rooms of a house are those in which the foulest portions of the domestic and personal duties are performed, and yet less care is often taken concerning the ventilation of these rooms than of any other rooms in the house. In many towns the by-laws specify that an air-grate must be fixed in the external wall of every water-closet; sometimes two are demanded, one near the floor and the other near the ceiling, the assumption being that the latter will act as an outlet and the former as an inlet. Unfortunately, this assumption is often proved to be erroneous, as both grates frequently act as inlets. The value of these air-grates has been much overrated. As a rule they serve as air inlets, and if, as is generally the case, the rooms have no extract shafts, the air, mixed perhaps with the foul air from the sanitary fittings, is drawn into the adjacent living-rooms or bedrooms, whence it escapes by means of the fireplace flues. In other words, the "fresh-air" supply of the house is to a large extent obtained through the bathroom and water-closet. The air-grates have also the disadvantage of reducing the temperature of the rooms in winter and of increasing the risk of frozen pipes. If proper extract-shafts were provided from these rooms there would be little danger of vitiated air being drawn into the rest of the building; the current of air would be in the opposite direction, *i.e.*, from the main building to the sanitary room. In the scullery, bathroom, &c., the extract-shaft may take the form of an open fireplace or of a flue formed in the chimney breast by the side of the smoke-flue. These flues ought to be formed with fireclay tubes, thoroughly grouted around, so that the foul air cannot escape into the rooms above. In the water-closet, housemaid's closet, &c., it may be a flue of the kind just described, or a special sheet-metal shaft leading to an extracting cowl fixed on the roof.

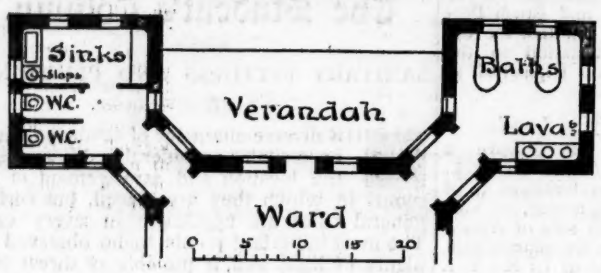

Fig. 1.

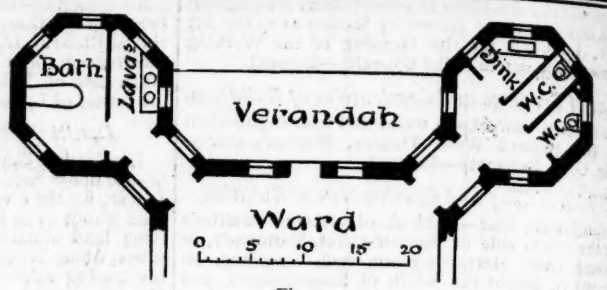

Fig. 2.

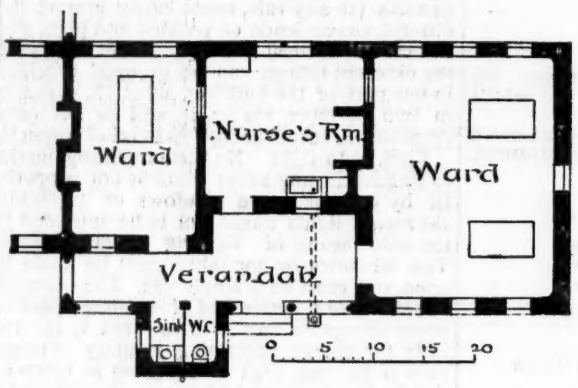

Fig. 3.

Fig. 4.

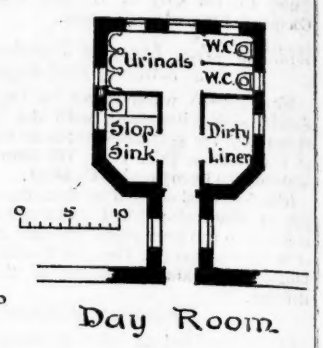

Fig. 5.

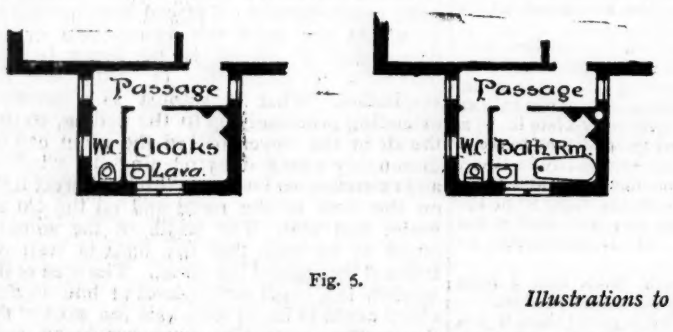

Fig. 5.

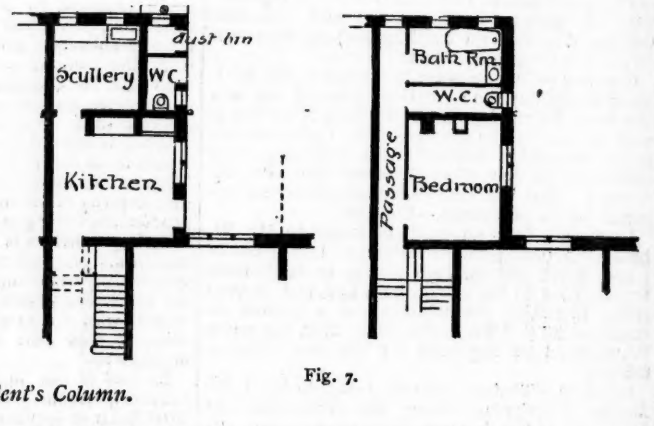

Fig. 7.

Illustrations to Student's Column.

A clever contrivance for ventilating water-closets and other rooms in which flushing cisterns are placed has been designed by Messrs. Kerrill & Hunter. It consists of a fan actuated by the water as it flows into the cistern. Consequently, every time the cistern is used the fan is automatically started and continues to run until the cistern is full again. The fan is said to be capable of extracting 200 cubic ft. of air per minute with a 60-lb. pressure of water. This contrivance will be of service in many cases when extract-flues cannot well be provided; it has the disadvantage of being spasmodic in its action, but this disadvantage is not very serious if the sanitary fittings and plumbing are such as to exclude all drain air from the room.

In modern hospitals the water-closets, bath-rooms, and sink-rooms are generally planned with short passages or lobbies between them and the wards, these passages having windows and openings for air on both sides. Among the many positions in which these rooms can be placed, the most generally satisfactory is at the extreme angles of the wards, as shown in figs. 1 and 2. These should be planned so as not to obstruct the ward windows, and so that the currents of air through the lobbies are not in the direction of the windows either in the sides or ends of the wards. The conveniences and lobbies ought to be warmed and ventilated. If there is an upper story of wards, the same arrangement of conveniences is repeated, thus simplifying both the plumbing and drainage.

In small fever hospitals, the water-closets and sink-rooms are often placed at the side of a verandah, as shown in figs. 3 and 4. There is therefore a free current of air between them and the pavilions to which they are attached. In exposed situations, however, this arrangement is somewhat trying, as the verandah cannot, of course, be warmed; in the case of one hospital, built in this manner from the writer's design, the openings in the front and ends of the verandahs were a few years afterwards filled with wood and glass.

Similar or slightly modified arrangements may with advantage be adopted in other public buildings, such as workhouses (fig. 5), and also in hotels, houses, &c. A cloakroom with lavatory and water-closet on the ground floor of a house may have over it a bathroom, lavatory and water-closet, as shown in fig. 6. In small houses, where much money cannot be afforded, probably the utmost that can be done is to arrange that the approach to the bath-room and water-closet shall be properly lighted by means of a sash or casement window, and not, as is so often the case, a dark, unventilated passage.

The illustrations already given also serve as examples of the grouping of sanitary fittings. This is an important point for consideration, as the grouping of fittings reduces the length of water-pipes, wastepipes, soilpipes, and drains, and therefore reduces the cost and also the dangers arising from defective materials and workmanship. An isolated fitting often requires a long branch-drain, and the nature of the fitting may be such that its discharge is not sufficient to cleanse the drain; hence, unless some method of periodical flushing is devised, deposit occurs, and the drain becomes foul and is ultimately choked. With a little care in planning, the sanitary rooms of a house can be much better grouped than is usually the case. The bathroom and water-closet can be placed over the ground-floor lavatory and water-closet, or over the butler's or maid's pantry, or over the scullery. It is a great mistake to place such rooms over living-rooms or larders, particularly if the floors are constructed with ordinary joists and boards. Fig. 7 shows an arrangement for a small terrace-house. The house water-closet on the first floor is placed over the servant's water-closet on the ground-floor, so that one soil-pipe serves for the two fittings, and the waste-pipes from the sink, bath, and lavatory discharge over a single gully. Only two sewage drains, therefore, are required, and these lead to the intercepting-chamber, from which the main drain leads to the sewer in the back street. The soilpipe serves as the ventilation shaft for the drain. The sink-gully is kept clear of grease by the flushes from the bath and lavatory.

Water-closets are often placed in most unsatisfactory positions. In a great many houses they are entered from the half-space landings of the stairs, or from other equally-exposed thoroughfares. Such arrangements are most objectionable. Privacy ought to be one of the guiding thoughts in the planning of these rooms, and this is best secured by arranging the lavatory and water-closet in close proximity to each other, and by approaching the two rooms by means of a short passage or lobby, as shown in fig. 6. It is a mistake to place the water-closet in the same room as the bath and lavatory, though this is too often done. It is also a mistake to place a water-closet in such a position that it is separated from an important room by nothing more than a lath-and-plaster partition. The noise made by the flushing of the apparatus will be heard on the other side of such a partition, and even of a 4½ in. brick wall, and it is best, therefore, to build a 9-in. wall wherever possible. The arrangement shown in fig. 6 will effectually prevent all sounds passing to the rest of the house. It is even more essential that the housemaid's closet should be out of the way, and this can best be effected by placing it near the servants' stairs.

In this country lavatory basins are not now fixed in bedrooms as frequently as was formerly done, but if the lavatories themselves, and the plumbing and drains, are thoroughly satisfactory, there cannot be any very serious objection to the practice. A better position would, of course, be the dressing-room or small room adjoining the bedroom.

The general construction of rooms containing sanitary fittings ought to be of the best. The floors—of ground floor and upper rooms alike—ought to be concrete, the ingredients to be properly proportioned so that the material is practically impervious. In sculleries, lavatories, water-closets, housemaid's closets, &c., the floors may be finished with fine concrete,

which will be all the better if carefully laid and polished after the manner known as terrazzo. Tiles and mosaic also make satisfactory floor-surfaces. Such floors are, however, cold, and are not generally approved for bathrooms—at any rate, in houses—although a simple remedy can be found in cork mats or strips of cork carpet or other movable floor coverings. Wood blocks form a suitable surface for bathroom floors, especially if of hardwood wax-polished. The walls of all rooms containing sanitary fittings ought to be faced with impervious materials, which will not absorb organic matter and can be easily kept clean. Glazed bricks are often used for the purpose, with the mortar-joints painted with enamel paint. Glazed tiles are also suitable, or the walls may be finished with Parian or other cement, and afterwards painted. Ordinary lime plaster covered with wall-paper does not form a satisfactory wall-surface. The angles of the walls ought to be rounded; special glazed bricks and tiles are made for the purpose. In hospitals the angles formed by the floors and walls are also rounded off. This arrangement facilitates dusting and sweeping, and reduces the possibility of accumulations of dirt.

GENERAL BUILDING NEWS.

CHURCH, HIGH BROOMS, TUNBRIDGE WELLS.—A church is to be built at High Brooms from plans by Mr. Richard Hill, of London.

CHURCH, OYSTERMOUTH, GLAMORGANSHIRE.—A church is to be built at Oystermouth from plans by Mr. Bruce Vaughan, of Cardiff.

RESTORATION OF EAST CLANDON CHURCH, SURREY.—The old church at East Clandon was re-opened recently after restoration. The transept has been restored to its original size, the tower has been strengthened by oak beams, new oak seating has been placed in the church, and an oak pulpit has been erected. Other portions of the work include an oak reredos, a new clock by Messrs. Gillett & Johnston, of Croydon, and an organ by Messrs. Bishop & Sons. The work was carried out by Messrs. Holden, of Cranleigh, under the personal supervision of the Diocesan Architect, Mr. T. G. Jackson, R.A.

REOPENING OF KINGSTON-ON-SOAR CHURCH, NOTTINGHAMSHIRE.—The parish church at Kingston-on-Soar was reopened on the 22nd ult., after undergoing partial rebuilding. Mr. Richard Creed, of London, was the architect, and Messrs. Walker & Slater, of Derby, were the contractors. The bells have been recast by Messrs. John Taylor & Co., of Loughborough.

BEECHGROVE UNITED FREE CHURCH, ABERDEEN.—The United Free Church at Beechgrove, Aberdeen, was dedicated on the 21st ult. Messrs. Brown & Watt were the architects.

CHAPEL, MAESTEG, GLAMORGANSHIRE.—Memorial stones have just been laid of a new chapel at Maesteg. Mr. T. J. Thomas, of Bridgend, is the architect, and Mr. Francis, Gilfach Goch, the contractor.

CONGREGATIONAL CHAPEL, BRISLINGTON, SOMERSETSHIRE.—A Congregational chapel is to be erected at the corner of Wick-lane, Brislington. Mr. Frank Wills is the architect.

CHURCH RESTORATION IN LINCOLNSHIRE.—The parish Church of Kirkby-cum-Ashfordby, near Market Rasen, has been reopened by the Bishop of Lincoln, after complete restoration according to the plans of Mr. R. C. Clarke, architect, of Nottingham.

CONGREGATIONAL CHURCH, OLTON, WARWICKSHIRE.—On the 1st inst. the new Congregational church which has been built upon a site in the Kineton-road, Olton, was opened. The designs for the building were prepared by Mr. J. P. Osborne, the architect. The structure, which is of red brick with white stone facings, includes a tower on the left-hand side of the entrance. The church will accommodate 350 people. A chancel is provided, and there is the usual vestry accommodation. A covered way leads to the schoolroom at the back of the church, and here provision is made for 300 scholars. An underground kitchen, fitted with cooking apparatus, is for tea-parties, &c. The premises are heated by hot water. The church has been built with a view to extensions, and sufficient land has been acquired to enable the schoolroom to be enlarged if necessary. Mr. Turton is the builder. The church has cost 3,500*l.*

CONGREGATIONAL CHURCH, NOTTINGHAM.—The new Queen's Walk Congregational Church, Nottingham, has just been opened. In the construction of the building the old foundations have been utilised so that the main walls are identical with those of the old building. The organ chamber, however, is placed at the back of the church and is a new building. The front part of the building—the lobbies and space for the future staircase—has been brought forward and is outside the area of the old building. The church has been designed in the Perpendicular style, the front to Queen's-walk and side of lobby being built of Bulwell stone rock with dressings of Hollington stone. The sides of the church are faced with pressed bricks, and the roof is covered with American sea-green slates. Accommodation has been provided for 500 people, and the church has been so designed that an end gallery can be added in the future capable of seating 170 more. Internally the church itself has a length of 79 ft. and a breadth of over 43 ft. The roof, which is an open timber one stained and varnished, is 47 ft. up to the apex from the floor of the church. A feature of the interior is the seating, which is of Californian pitch pine. The rostrum is constructed of pitch pine and mahogany, and is approached by a flight of stairs on either side. Provision has been made for a church parlour, at the rear of the church. 25 ft. by 14 ft., and there are minister's and ladies' vestries, with lavatories attached. The building is heated by means of hot water, low pressure, and the ventilation is on Boyles system, fresh air being supplied by means of brackets fixed round the building. The whole of the buildings are lighted by electricity, this work having been carried out by Messrs. Pearson Bros. The church has been built by Messrs. Green & Sons, and the architect is Mr. Charles Nelson Holloway. The contract amounts to 3,000*l.*

WESLEYAN CHURCH, WEYBRIDGE.—It is proposed to erect at Weybridge a church, with spire, a manse for the minister, and a lecture hall or Sunday school, with classrooms, and all the necessary adjuncts. The buildings so far erected consist of the lecture hall—which for the present is to be used as a church—with church parlour, stewards' vestry, two classrooms, infants' schoolroom, cloakroom, kitchen, lavatories, and other offices, and the expenditure incurred is 3,742*l.* 2s. 6d. The site is half an acre of land in Heath-road, and the present church is of red brick and Bath stone, in the Gothic style, capable of seating 300 people. The architects have been Messrs. Gordon & Gunton, of London, and the builder Mr. W. Greenfield, of Weybridge.

BUILDING IN NOTTINGHAM.—The number of plans deposited from December, 1899, to December, 1900, was 806, and 882 new houses have been certified during the same period. Probably the most important work carried out has been the completion of the Great Central Railway station, which was opened in June. The demolition of the old gaol in St. John's-street has taken place, and the erection of the Corporation electric power station begun on the same site. In connexion with the new electric tramway system the power station at Sherwood has been finished. Very little alteration has been made to buildings in the vicinity of the Great Market-place. Part of the old Moot Hall—an ancient wine and spirit establishment—situated at the corner of Wheeler-gate and Friar-lane, has been pulled down and the work of rebuilding commenced. A considerable amount of property has been reconstructed in and at the back of Wheeler-gate. The Jubilee wing—a circular structure—has been added to the General Hospital, and extensive alterations have been made in Standard Hill. On the west side of St. James's Church a number of old dwelling-houses have been pulled down and part of King Charles-street taken up—that portion between the church and the hospital—by a new laundry. A rare old landmark, the Tradesmen's Mart, in Lower Parliament-street, has disappeared, and on the site have been erected a cold storage depot and wholesale fruit stores. In St. Mary's Gate Messrs. H. Mallett & Co. are rebuilding part of their warehouse, and in Bridlesmith Gate Messrs. Morris & Place, auctioneers, are rebuilding their premises. Alterations are in progress between the Midland Railway Station and Wilford-road Bridge. In addition to new locomotive sheds the Midland Railway Company are erecting a new electric lighting station and for the purpose of erecting a new passenger station have demolished a great amount of household property situated between the present station and Queen's-road. In Meadow-lane, on the east side of the Midland Railway, the foundations have been got in for the new works of the Railway and General Engineering Company, Limited. Quite a number of houses have been built on the old waterworks field near Trent Bridge, and in Rupert-street and Middle Furlong-street, off Wilford-road, additional dwellings have been erected. A building, commenced and practically finished during the year, is the Queen's-walk Congregational Church, which is shortly to be opened. Few other improvements have been carried out in the Meadows district, yet building operations continue steadily. At Lenton building operations have not been as brisk as in many other parts of the city. A number of villas have, however, been built in a commanding situation and at the west side of the Park. The greatest activity has been in evidence at Sneinton, several new streets having been made and houses built off Colwick-road.—*Nottingham Express.*

EXTENSION OF MUSEUM AND ART GALLERY, BRISTOL.—The plans for the extension of the Museum and for the Art Gallery, which Sir William Heny Wills. Bart., is giving to the city, have been prepared by Mr. Frank Wills, in conjunction with Messrs. Houston, of London. The front of the building is designed in the Renaissance style. The museum will contain a central hall, 47 ft. 6 in. by 59 ft. 6 in., and 40 ft. high. On the ground floor will also be two rooms, 63 ft. by 35 ft. and 63 ft. by 33 ft. 3 in. respectively; and two others, each 43 ft. by 29 ft. 6 in. Galleries may conveniently be added if required hereafter. A gallery in the hall leads to rooms which may be used for offices, refreshments, &c. The Art Gallery will be on the top floor, and will include two rooms, each 64 ft. by 30 ft., two 43 ft. by 30 ft., and another 47 ft. 6 in. by 30 ft. In the basement will be workshops and store-rooms; and lifts are to be constructed to run from the basement to the top of the building.

NEW SCHOOLS, SUDBURY.—The opening ceremony in connexion with a new infant school erected by the trustees of the North-street Church Schools, Sudbury, took place recently. The Diocesan Surveyor, Mr. W. M. Fawcett, M.A., of Cambridge, prepared the plans for the new buildings, the contractors being Messrs. George Grimwood & Sons, Sudbury. The new schools are calculated to accommodate 270 scholars. The main infant schoolroom is about 50 ft. by 20 ft. by 13 ft., while there is a large double classroom 20 ft. by 40 ft., divided by a sliding partition. In addition, there are two large classrooms and a lobby. The whole of the walls have a dado, 4 ft. high, with a chocolate-coloured border of salt glazed bricks.

TOWN HALL, TAUNTON.—Revised plans of the proposed Town Hall for Taunton have been submitted to the joint committee of the Market Trustees and Town Council. The architects, Messrs. Samson & Cottam, have been instructed to prepare an estimate of the cost.

ECCLESBOURNE-ROAD SCHOOLS, THORNTON HEATH.—These schools have just been completed for the Croydon School Board. The present accommodation is for 1,200 children—400 boys, 400 girls, and 400 infants, with room for future extension. The infants' school is a one-story building and comprises a central hall 69 ft. by 25 ft., seven classrooms, two caprooms and entrances, with a teachers'-room, which will be available as a committee-room. The boys' and girls' school is a two-story building, the boys on the ground floor and girls above. Each department comprises a central hall 79 ft. by 30 ft., with a class for fifty at each end, and five classrooms for sixty each, two caprooms, a teachers'-room, store, and two entrances, and the upper flooor is approached by two staircases, so that there is always an alternative exit in case of emergency. There is a lock-up store with sink and hot and cold water for the use of the caretaker in each school; also a store for bicycles. The upper floor is constructed of steel girders and concrete, thus being fire and sound resisting, and permits of solid wood floors, formed with 1¼ in. pitch-pine blocks, being used throughout all the schools. The external walls are built hollow, 16 in. thick, faced externally with red Leicestershire bricks and Derbyshire stone dressings; the roofs being covered with red Staffordshire tiles. Instead of the usual type of lavatory basin in the caprooms, a marble lavatory trough of special design is provided, which is cleaner and more economical. Incandescent gas lighting is provided by a special form of burner introduced by Messrs. Wm. Sugg & Co., of Westminster. The heating is by low pressure steam, working at about 2 lbs. pressure, and is generated from two boilers in a basement under the large school. Messrs. Korting Bros., of London, are responsible for this work and guarantee, under a contract, that the temperature can be raised 40 deg. Fahr. above the outside temperature. There is a coil of gilled pipes in each room with a valve to regulate the amount of heat, and at the back of each coil a fresh-air inlet is provided with regulating shutter. On the opposite wall to the coil a foul air extraction flue is provided with a valved grating fixed at the floor level, thus ensuring an equable temperature throughout the room. The builders' contract amounts to 15,534*l.*, which works out at barely 13*l.* per head, and is within the amount specially allowed by the Board of Education for the erection of those premises and works in connexion therewith. Messrs. Wm. Smith & Son of Croydon, are the builders, and Mr. T. W Tester has acted as clerk of works. Under a separate contract, amounting to 732*l.*, the Bennet Furnishing Company, of London, have supplied all the furniture, which is executed in a Canadian hard wood called orham. The architect is Mr. A. Carter Pegg, of Thornton Heath.

MASONIC TEMPLE, EDINBURGH.—No. 75, Queen-street, Edinburgh, has been converted into a masonic temple. Mr. P. L. Henderson was the architect.

TOWN HALL, ENNISKILLEN, CO. FERMANAGH.—The new Town Hall at Enniskillen has just been completed. Messrs. A. Scott & Son, of Drogheda, were the architects.

CONSERVATIVE CLUB, BRIXHAM, DEVONSHIRE.—The new Conservative Club building at Brixham was opened on the 26th ult. The building is on a site adjoining the Market Hall, and was erected by Messrs. Hazelwood, of Brixham, from plans by Mr. E. Richards, of Torquay.

SCHOOL, EDINBURGH.—The site of the new Board school, the plans of which were approved at a recent meeting of Edinburgh School Board, faces Ashley-terrace, North Merchiston, and contains one and a quarter acre of ground. The main feature of the plan is a central hall both on the ground and on the first floor, with classrooms grouped round them on each floor, the ground floor being devoted to the infant department, and the first and second floors to the juvenile department. The second floor contains, besides the ordinary classrooms, a combined workshop and cookery classroom and gymnasium. The classrooms contain an

average number of sixty pupils, and there being twenty-seven classrooms in all, accommodation is provided for 1,586 pupils. The school has been designed in a simple treatment of English Renaissance, the windows lighting the juvenile hall on the first floor being marked by semi-circular heads. An ornamental belfry surmounts the central floor. The building will be heated by means of hot-water pipes on the low-pressure system. Ventilation is obtained by means of electrical fans extracting the vitiated air from all the rooms. Mr. Robert Wilson is the architect.

PRINGLE MEMORIAL UNITED FREE CHURCH, FOCHABERS, N.B.—This new edifice has just been opened. It has been erected from designs by Messrs. D. & J. R. M'Millan, architects, Aberdeen. The tower and spire at the corner is about 105 ft. in height, supported by heavy buttresses carried up at the angles from the base, and finished off at the four corners with turrets. In the main gable there is a large traceried window. The main entrance doorway is situated in the tower. The church will accommodate 450 persons, but by extending an end gallery at a future date, the accommodation may be considerably increased. At the rear of the church is a hall to accommodate 150 persons, with a session-house adjoining, which can on special occasions be thrown into the hall by the opening of folding doors. Behind the pulpit is an apse where an organ may be erected. The roof is circular in form, lined with wood. The pews and inside finishings are of pitch pine. There is also the usual vestry accommodation and a tea kitchen. The cost of the completed structure is expected to be about 3,000*l.*

RE-OPENING OF PARISH CHURCH, SEATON, DEVONSHIRE.—The parish Church of St. Gregory, Seaton, was re-opened recently after renovation, &c. The work has included the substitution of an open timbered roof for the old lath and plaster ceiling, and the erection of a new pulpit of carved oak, the work of Messrs. Harry Hems & Sons. A new font, with a bowl of Beer stone, is being made by Messrs. Hems. The work was carried out under the supervision of Mr. Strawbridge, of Taunton, by Mr. H. Abbot, of Seaton.

SANITARY AND ENGINEERING NEWS.

CHESTERTON RURAL DISTRICT SEWERAGE.—Colonel Marsh, R.E., an Inspector of the Local Government Board, held an inquiry recently at Cherry Hinton, Cambridge, concerning the application of the Chesterton Rural District Council for sanction to a proposed loan for works of sewerage and sewage disposal. The engineers' estimate of the cost of the works was 14,650*l.* The District Council were represented by Mr. Bartley Dennis, barrister, London. Mr. H. Bertram Nichols, consulting engineer, of the firm of Messrs. Beesley, Son, & Nichols, of Westminster, gave evidence for the District Council, also Mr. Frank Waters, of the firm of Messrs. Waters & Worrall, of Cambridge, engineers for the scheme. The scheme was opposed by the Town Council of Cambridge, also the Cambridge Waterworks Company. Mr. Strachan, engineer, of Westminster, gave evidence on behalf of the Water Company.

SEWER VENTILATION, BIRKENHEAD.—A monthly meeting of Birkenhead Town Council was held on the 2nd inst. in the Birkenhead Town Hall when Alderman Singleton, in moving the minutes of a special joint meeting of the Health and the Road and Improvement Committees, in reference to the ventilation of sewers, said the committee had come to the conclusion that ventilation should be provided by upcast ventilation instead of surface gratings immediately in case of streets 30 ft. in width or under, and as occasion arose with wider thoroughfares. The committee were unanimously of opinion that surface gratings should be closed at once in such narrow streets, as it was there, if anywhere, that danger arose from sewer-gas, whereas in wide areas there was little, if any, danger. It was not meant, of course, that the gas should be extracted from the sewers, but merely to provide a vent which would permit the escape of gas whenever pressure occurred, and thus prevent it finding its way into the houses. The proceedings were adopted.

STAINED GLASS AND DECORATION.

WINDOW, ST. CHAD'S, HEADINGLEY.—A stained-glass window has just been erected in St. Chad's Church, Far Headingley, Leeds, by Mr. John Kirk, of Headingley, in memory of his wife. The window, consisting of two lights, illustrates the coming to the tomb of the three Maries on the morning of the Resurrection, and is a copy of the altar-piece in Molde Church, Norway. The work is from the studio of Messrs. Powell Brothers, of Leeds.

MEMORIAL WINDOW, TRINITY CHURCH, NOTTINGHAM.—A stained glass memorial window, the work of Messrs. Heaton, Butler, & Bayne, of London, has been placed in the south-east wall of the chancel of Trinity Church, Nottingham.

MEMORIAL WINDOWS, ASHILL CHURCH, NORFOLK.—Two memorial windows have been placed in St. George's Church, Ashill. The east window is in memory of the Rev. B. Edwards, at one time a rector of the parish. The other window is in memory of the late rector the Rev. C. W. N. Custance, and is in the south side of the chancel. The new stonework in the windows was designed by Mr. A. Reeve and executed by Messrs. Cornish & Gaymer, of North Walsham. The glass was by Messrs. Lavers & Westlake, of London.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—The firm hitherto known as that of Messrs. E. & H. Lumley, land agents and auctioneers, of 22, St. James's-street, has been registered as a limited company under the style of "Lumleys, Limited." The constitution of the firm remains unchanged; Mr. Henry Lumley will be Governing Director and will give the same attention to the business as formerly.——Messrs. Hayward Bros. & Eckstein, of Union Iron Works, Borough, have purchased the goodwill, patterns, plant, &c., of the Alliance Ventilating Company, late of 17, Bethnal Green-road.——The firm of Ewart & Son (346 to 350, Euston-road, N.W.), sheet metal workers and copper roofing contractors, have converted their business into a limited liability company, and in future will be known as "Ewart & Son, Limited."

DISTRICT SURVEYOR, BERMONDSEY.—Mr. T. Barnes Williams has resigned his appointment as District Surveyor for the district of Bermondsey, St. Mary Magdalen and St. John; St. Olave, and St. Thomas, Southwark.

ST. PAULS, COVENT GARDEN.—The Communion plate and the registers of this church were saved from the fire of 1785, but the latter have never hitherto been indexed. We are informed that this has now been done as far as the marriages are concerned, and those of the baptisms and burials will be completed shortly. The work is being prepared by Mr. H. Farrar, assisted by Messrs. T. C. Black and Harold and Percy Werwick, who have presented cases as covers for the slips. The registries of burial include some celebrated names, among those of Grinling Gibbons, Thomas Arne, and Macklin.

STREET REFUSE IN THE CITY.—The Corporation have for some time past been considering the question of dealing with dust and refuse from the City, and, among other things, the practicability of generating electricity from steam raised by burning the refuse. Mr. D. Ross, the City Engineer, reporting to them on the subject, states that last year 74,621 loads of refuse were removed from the City to Lett's Wharf, Lambeth, near Blackfriars Bridge, the lease of which expires in 1909. About 60 per cent. of the house and trade refuse is cremated, but the street sweepings, slop, and market refuse are shot into barges and removed daily. The Corporation, having permitted two electric lighting companies to obtain powers to supply electricity for lighting and other purposes, could only generate electricity for their own purposes or for street lighting. They were in a totally different position to other local authorities who are supplying electricity in their various districts and who are cremating their refuse and utilising the power generated therefrom in connexion with their electricity works. It was extremely doubtful whether the house and trade refuse could be profitably dealt with by cremation, as it consisted principally of paper, straw, and packing materials of very little calorific value, exceedingly bulky and difficult to manipulate. Although from a sanitary point of view cremation was preferable to any other mode of dealing with the refuse, mature consideration leads Mr. Ross to believe that, having regard to the difficulties of obtaining a suitable site in the City and the expense thereby entailed, and to the difficulties that would arise in working any apparatus that might be erected without being stopped by legal proceedings, the objections to this course were almost insuperable, and in his opinion it would be better to barge the refuse direct into the country from the City than deal with it there. Mr. A. A. Voysey, the Electrical Engineer of the City, has also made a report to the Corporation on the subject. The Streets Committee, on these reports, have advised the Corporation to barge the dust and refuse into the country and to obtain some suitable site for the purpose. The question will be decided on the re-assembling of the Corporation after the vacation.

PAVING MATERIALS IN ABERDEEN.—The quantity of granite setts used for paving purposes in the city during the past twelve months is the smallest for several years, and shows a great falling-off compared with 1899, when the quantity of paving blocks laid in Aberdeen amounted to 11,079 tons. Of this quantity 8,170 tons were required for the paving of Great Northern-road, and that accounts for the exceptionally large quantity used in 1899. Last year the total quantity reached only 1,181 tons, which is certainly a very small tonnage for a city like Aberdeen. There is also a considerable decrease in the quantity of rubble used for street purposes, which amounted only to 4,600 tons, and shows a falling-off to the extent of 3,041 tons, or nearly one-half, but the quantity was greater than that of 1897. Of road metal 20,754 tons were used, which is nearly the same as 1899. In granite kerbing there has been a decrease of more than one-half, the quantity being 3,422 lineal yards as against 7,467 lineal yards, a decrease of 4,045 lineal yards: but in granite pavement an increase of 247 square yards falls to be recorded, the quantity being 890 square yards, compared with 643 square yards in 1899. Concrete pavement shows a decrease of 935 square yards, the figures being 6,081 square yards and 6,934 square yards respectively. One of the most interesting features in connexion with the paving of the city is the large increase in the use of adamant pavement. In 1899 the quantity laid amounted to 1,682 square yards, while this year it has risen to 11,425 square yards. In the course of last year 16,737 square yards of tar macadam were laid, while in 1899 the amount was 9,926 square yards, showing an increase of 6,811 square yards. While this large quantity of tar macadam has been laid down, a very large quantity has been scraped up. In some of the thoroughfares where tar macadam has been used, tons upon tons of stuff have been swept, scraped, and washed away in the shape of black mud and gravel.—*Aberdeen Journal.*

THE ENGINEERING TRADES IN 1900.—According to Messrs. Matheson & Grant's half-yearly report the year 1900 has not been quite so profitable to manufacturers as 1899, when the maximum prices were obtainable without that increase in the cost of fuel, material, and labour, which has since taken place. It is to the economies obtained by the full employment of their works, as much as to high prices, that manufacturing engineers have owed their profit, and it will be to a lessened demand that a reaction will be due. In some branches this time has already arrived, for though contracts in hand keep most of the works busy, new orders are not so abundant as in the spring. There is no longer difficulty in obtaining prompt delivery of material. *Iron and Steel.*—Pig iron which a year ago was selling at 65*s.* per ton, alike in Scotland and Middlesborough, had risen to 70*s.* and 75*s.* respectively in April, the north country iron being thus dearer than Scotch instead of being cheaper as in normal times. Cargoes from America arrived in this country during the spring and summer at lower prices than those ruling here; a continuance of such imports was threatened; and as, meanwhile, the price of coke had risen to an unprecedented level, the owners of blast furnaces in this country found difficulty in selling their product on remunerative terms. The famine in coke was ended; the price fell during the summer and autumn as the demand for pig iron slackened, and at present the prospects of the iron makers are rather gloomy, Finished iron has followed much the same course. Ordinary bars which were saleable at 10*l.* to 11*l.* per ton in April, now, by a succession of reductions, stand at only at 8*l.* "Marked bars," bearing well-known brands, have been lest affected, and "Best Yorkshire" iron remains at the same high price to which it was raised a year ago. The heavy steel trade has had to meet Continental and American competition. Owing to the great demand during the summer and to the concert among manufacturers the prices of English rails reached 7*l.* 10*s.* per ton for heavy sections, and in consequence several large purchases for the Colonies and India, which in ordinary course would have been supplied here, were bought from America. The present price of heavy rails is about 6*l.* per ton, and there has been a corresponding fall in the values of the structural steel used by ship and bridge builders.

BUILDING INSPECTORSHIP.—Mr. Alfred T. Mills, Associate Sanitary Institute, Sanitary Inspector to the Borough of Bethnal Green, has been appointed Building Inspector to the Hornsey District Council.

THE TIMBER MARKET IN 1900.—In Messrs. Foy, Morgan, & Co.'s annual wood report for 1900, it is stated that the volume of the import last year was very great, being largely in excess of both 1898 and 1899, and practically the same as in 1897, while in value, owing to the exceptional rise in prices during the last two years, the past year surpasses even the year 1897 by several millions of pounds sterling. But while this is true of the totals, the facts that have most importance for the soft wood trade are only to be discovered from an examination of the details, and it would then appear—after setting aside the statistics of hewn wood (which include, beside timber and balks, such items as pit-props, round wood for pulp, &c.), and thus confining attention to the main importation of deals, battens, boards, and floorings—that there has been no difference of any practical importance between the quantities imported during the last three years either from Russia or Sweden and Norway or Canada. The quantity imported during 1897 from the same countries appears to have been in the case of Russia and Scandinavia 4 per cent. to 5 per cent., and in the case of Canada 15 per cent. larger than in any of the last three years. The only exporting country, and that by far the least important among our sources of supply, which has increased its shipments here is the United States, and inasmuch as its chiefest product, sawn pitch pine timber, is used as a substitute for the hewn fir formerly shipped from Germany the incease in such supplies would appear to be nominal only, and largely explainable as a simple transfer in our Customs' return from one category to the other. That portion of the import, then, which concerns the building, joinery, packing case, and allied trades has by no means tended to increase, but, on the other hand, has shown a marked diminution since 1897. In the face, however, of the great visible increase in stocks now held in such places as London, Hull, Hartlepool, Newcastle, Sunderland,

Cardiff, Swansea, Dublin, and Belfast, the statistics seem opposed to obvious facts, but the explanation doubtless lies in the conditions regulating the supply of tonnage. The establishment of liners, the gradual disappearance of sailing vessels and small steamers, besides the preference given, particularly when freights are high, to large ports, especially when also coal ports, where good despatch and low expenses can, as a rule, be relied upon—all serve to concentrate importation into the larger centres, which thus are made to serve a more extended area to the detriment of the smaller ports, handicapped as these are by want of tonnage facilities. The consumption during the past year has not continued on its previous satisfactory level. A twelvemonth ago some tendency of slackening was observed, and this has increased during the year, under the screen of high prices, so as to show a total decline of about 10 per cent. Whether continued or not, the consuming power of the market is even now brought down to within 5 per cent. of what it was in 1897, so that, comparing prices ruling then with those current to-day, it becomes a critical problem whether the present conditions of supply and demand are such as to support the scale of prices now in vogue.

NEW SURVEYING INSTRUMENTS.—Amongst the more recent surveying instruments introduced by Messrs. W. F. Stanley & Co., Limited, of Great Turnstile, W.C., some improved levels and theodolites are worthy of notice. The "New Model" level is an excellent instrument with a very rigid stand and a tribrach stage permitting the level to be used on a wall without the legs. An improved "Quick Setting-up" level has a head which combines the advantages of the well-known Hoffman levelling joint and the tribrach system. This method of construction allows a considerable range of adjustment, so that the instrument can be used on very uneven ground. It can be rapidly set up, and may be employed without the legs if necessary. Each of these levels is supplied either with or without a prismatic compass, which, in the opinion of some surveyors, is an unnecessary addition, for the reasons that levelling and traversing cannot profitably be conducted simultaneously and that the level does not afford a particularly suitable mount for such an adjunct. Stanley's gradiometer is a most serviceable combination of level and clinometer, for employment when the ordinary type of level would be at serious disadvantage, as, for instance, on sloping ground. The new model railway theodolite, as its name implies, is designed specially for railway engineers; it is a compact and steady instrument, levelled on the tribrach system, and is fitted with a patent locking-plate, making the instrument available for use on masonry or ironwork, as well as upon the stand. Stanley's new transit theodolite is particularly noticeable for solidity of construction, and it includes other improvements as to details, which should be conducive to additional accuracy of the work performed.

CARPENTERS' COMPANY.—We may draw the attention of workers in wood to the important exhibition of the Carpenters' Company to be held in June this year, of which an advertisement will be found in the present issue. We gave a general sketch of the scheme of the exhibition in a "Note" in our issue of July 7 last year, when the circular regarding the exhibition was first sent to us.

A NOTABLE CHIMNEY-SHAFT.—Although surpassed in height by several chimneys in this country, the new shaft of the Metropolitan Street Railway power station, New York, is of greater diameter and power than any similar structure in the world. Its height is 353 ft., and the internal diameter 22 ft. from bottom to top. The chimney is designed to serve a battery of eighty-seven steam boilers, each of 800 h.-p. maximum, equal to a total of nearly 70,000 h.-p. Preliminary borings on the site indicated that the first 15 ft. in depth consisted of heterogeneous material, and that below this there were beds of sand gradually becoming coarser and more like hardpan until the depth of 75 ft. was reached. Below this level blue clay extends to an unascertained depth. After the necessary excavations had been made, piles 45 ft. long were driven into the coarse sand, to afford a sufficient bearing for the concrete foundation, the piles being spaced about 30 in. apart, centre to centre. The concrete bed is 20 ft. thick, and covers an area of 88 ft. square. Ordinary brick was used for the greater part of the chimney, which has two shells. The inner one is only strong enough to support its own weight, including that of the fire-brick lining; the other is designed to carry its own weight and the horizontal wind load, taken in this instance at 50 lbs. per ft., or 5 lbs. less than the load usually assumed by British engineers. For the purpose of increasing stability and stiffness, counterforts, or ribs, were built into the inner surface of the outer shell. These extend to within about 2 in. from the inner shell, and thus form guides for its movement during expansion or contraction. Flues from the boilers enter from opposite sides on each of the three floors on which the boilers are carried, and there is a baffle-wall in the middle of the shaft reaching a little way above the uppermost inlet flue, so that the products of combustion may be directed upwards, and be prevented from interfering with the discharge from the flues on the opposite side of the chimney. An internal lining of fire-brick extends to about 50 ft. above the highest flue opening. The structure is finished with a cast-iron cap, made in sections and bolted together when in position.

OPEN SPACES.—The Executive Committee of the Commons and Footpaths Preservation Society have instructed their solicitor to draw up a report upon the private Bills (about thirty in number) which are prepared for next Session of Parliament and which would encroach upon open spaces, village greens, and commons to the extent of taking an aggregate of 1,200 acres of common land for new waterworks and 360 acres for tramways and railways.—The Metropolitan Public Gardens Association have under consideration the making of schemes for the acquisition and the laying-out of Hoxton-square, Leyton-square, S.E. and certain vacant lands at Hackney, Bethnal Green, Hampstead, and elsewhere in London. During the eleven months January-November, 1900, the Association's income was less by about 700*l.* than during the corresponding period in 1899.—The London County Council have agreed, in consideration of a sum of 5,600*l.*, as estimated by their Finance Committee, to transfer to their Parks Committee the charge of the portion of the Falcon-court, Southwark, area, recently cleared in pursuance of the Housing of the Working Classes Act, 1890, for the purpose of an open space, and to lay out and maintain the ground The Council have further resolved to expend 7,000*l.* in buying the garden ground of Albert-square, Commercial-road, E.; and to contribute one-half of the cost of the acquisition by the Lewisham District Board of about 8 acres, known as the Home Park estate at Lower Sydenham, subject to a maximum contribution by the Council of 2,800*l.* and to an agreement by the District Board to maintain the ground for the public benefit and recreative enjoyment in perpetuity. The Council anticipate that the laying-out of the Archbishop's Park at Lambeth will be completed in the course of five or six months; there will be a new entrance from Carlisle-place. The total cost of the works is computed at nearly 5,000*l.*—The Enfield District Council propose to purchase for 7,000*l.* a portion, being rather more than 13 acres, of the Chase Side House estate, towards which Mr. Bevan and Mr. J. W. Ford contribute 500*l.* apiece. At Leeds, the City Property Committee have agreed to recommend the acquisition for 35,000*l.* of the Harehills Park estate, about 32 acres, and for 14,000*l.* of another site in Harehills-lane.

THE LABOUR MARKET IN THE COLONIES.—The January *Circular* of the Emigrants' Information Office states that in New South Wales the break-up of the drought last year has much improved the prospects of all kinds of labour; but there were throughout the year large numbers of unemployed in Sydney, many of whom were provided with work by the Government Labour Bureau at quarrying, railway construction, &c., the ordinary wage being 7*s.* a day. The demand for mechanics is not large, but competent men can generally get work without much delay; they should have some money with them on landing. The building trade in Sydney has been unusually busy. At Newcastle also there has been a demand for good turners, blacksmiths, fitters, ironmoulders, carpenters, &c. In Victoria there is no demand for mechanics or labourers, unless they are specially skilled, and bring a little money with them. In South Australia there is practically no demand for more mechanics in the towns, but a skilled hand can generally find employment after looking about for a little. With regard to Western Australia, it should be remembered that the population of the colony, though it has rapidly increased, is still small, and that therefore the demand for all kinds of labour is necessarily limited. Official returns for the quarter ending September 30 last show that the supply of mechanics is sufficient everywhere except at Katanning and Yilgarn, and for good men in the building trades at Perth. In Tasmania mechanics at Zeehan, Queenstown, and Gormanston, on the west coast, and in the surrounding districts, are well employed; good fitters can generally get work, but otherwise the labour market there is on the whole well supplied with men. The last reports from New Zealand show that there was plenty of work there except in the meat-freezing works. Good boiler-makers have been in demand at Christchurch. There has been a great demand at Dunedin for a limited number of good stone-masons, and several openings for a few first-class fitters and turners. At Invercargill, carpenters, bricklayers, and stone-masons have been especially busy, and men have been hard to get, even at an advanced rate of wages. Persons are warned against going to South Africa at present in search of professional or manual work, unless they have ample private means to meet the very high cost of living. They will not as a rule be allowed to proceed up country. There are already large numbers of persons in South Africa at the present time who are out of employment.

GLASGOW ENGINEERING CONGRESS, 1901.—This congress is to be held in Glasgow in the first week of September, 1901, and will meet in the University Buildings. Papers will be read on two or three days and excursions to works of engineering interest and social gatherings will be arranged. Lord Kelvin has consented to act as Honorary President, and the President and Council of the Institution of Civil Engineers have consented to the nomination of the President of that Institution as President of the Congress. Among the subjects proposed to be treated are—Sewage and Sewage Disposal; Streets (including questions of paving and cleansing, the removal of snowfall from streets, traffic regulation, &c); Light Railways and Tramways; Street Lighting; Removal of House Refuse; Utilisation of Dust Destruction for Power Generating; Smoke Abatement; Housing of the Working Classes; and Superannuation.

THE SHANNON MONUMENT, WALTON.—We learn that Mr. F. J. Williamson, of Esher, has been commissioned to carry out a restoration of the monument, designed and sculptured by Roubiliac, erected in Walton Church, Surrey, in memory of Richard Boyle, second and last Viscount Shannon, who died in December 20, 1740.

LEGAL.

EMPLOYERS' LIABILITY ACT.

QUESTION AS TO WHO WAS THE EMPLOYER.

AT Brompton County Court recently, before Judge Stonor, Mr. John Gilbeart, builder, 11 and 12, Chester-street, Belgrave-square, S.W., was sued, under the Employers' Liability Act, by John Spanner, jun., Battersea, the claim being in respect of personal injuries sustained by the plaintiff owing—it was said—to negligence for which the defendant was responsible. John Spanner, sen., father of the plaintiff, brought a similar action against the same defendant.

Mr. G. Aplin Nichols, solicitor, appeared for the two plaintiffs; and Mr. J. Jones, counsel, defended

The case of the son was taken first.

The plaintiff stated that on May 4 last he was helping his father to fix lincrusta to a ceiling at 50, Eaton-place. In order to reach the ceiling the defendant provided them with trestles upon which scaffold boards were placed. While standing on one of these boards and pressing the lincrusta up to the ceiling, a tread of one of the trestles suddenly gave way, and both he and his father fell a distance of some 5 ft. to the ground. He was taken to St. George's Hospital, and was unable to do any work for five weeks. He found that one of the tenons of the tread that gave way had been sawn too deeply, and he thought that this defect might have been discovered by putting a weight upon it, or placing the blade of a knife in the joint.

Cross-examined: Neither he nor his father examined the trestles before they went on them.

John Spanner, sen., the father, said that he did not put in a price for the work in question, but reckoned up the number of hours, and charged what he considered reasonable.

Arthur Dyer, another employee, maintained that the trestles were defective in the making, owing to the saw running too deeply when the tenon was cut. Trestle-makers generally tested their goods before sending them out for use.

Mr. Jones submitted that the plaintiff was not in the employ of the defendant at the time of the accident, and so could not recover under the Act. There was no evidence to show that Mr. Gilbeart exercised any control whatever over the two men. They came to work when they liked, and charged practically what they liked.

The Judge: But was there a contract?

Mr. Jones: There was a contract, of course, to do the job. The learned counsel went on to refer to the case Hunt *v.* Moullen.

Mr. Nichols submitted that the elder plaintiff was in the employ of the defendant, because he had entered into a contract to work for him.

Mr. Jones replied that it was the son's case that they were then dealing with, and that the young fellow could not be held to be in the employ of the defendant, for he admitted being engaged in assisting his father.

The Judge: With regard to the son, I shall nonsuit.

Mr. Jones offered to forego all costs if the case brought by the senior plaintiff were struck out.

Mr. Nichols consulted with his client, and afterwards agreed to the case being struck out as suggested by the defendant's counsel.

MEETINGS.

FRIDAY, JANUARY 11th.

Institution of Civil Engineers (*Students' Meeting*).—Address by Mr. Wilfrid Airy, B.A., on "Geodesy." 8 p.m.

Architectural Association of Ireland (*Technical Demonstrations*).—Mr. John McGloughlin on "Constructional Work" (at No. 47, Great Brunswick-street). 4.30 p.m.

Glasgow Architectural Craftsmen's Society.—Professor Gourlay, B.Sc., on "A Tour in Germany, Switzerland, and Italy," with lime-light illustrations. 8 p.m.

SATURDAY, JANUARY 12.

Dundee Institute of Architecture.—Mr. R. S. Douglas on "Architectural Decoration—(1) as Clothing; (2) as Structural."

MONDAY, JANUARY 14.

Surveyors' Institution.—Adjourned discussion on Mr. R. E. Middleton's paper on "The Future of the London Water Supply." 8 p.m.

Institution of Mechanical Engineers (*Graduates' Meeting*).—Professor J. A. Ewing on "The Structure of Metals," illustrated by lantern slides. 8 p.m.

Society of Arts (*Cantor Lectures*).—Mr. J. Liberty Tadd on "Elementary Art Education." 8 p.m.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Bridge, Balgie Burn	Dunoon (N.B.) Commissioners	Mr. Mackintosh, Civil Engineer, Dunoon	Jan. 15
Filter Beds, &c., Acomb Landing	York Waterworks Company	W. H. Humphreys, Waterworks Offices, Lendal, York	do.
Hotel, Barrow-in-Furness	.....	Harrison & Co., Architects, 36, Albert-road, Morecambe	do.
Tramways (4½ miles)	Wolverhampton Corporation	J. W. Bradley, Borough Engineer, Town Hall, Wolverhampton	do.
Hospital, Burgess Hill	Cuckfield R.D.C.	G. T. Hine, Architect, 36, Parliament-street, S.W.	do.
Workshops and Five Houses, Boothtown, Halifax	.....	R. Berry, Architect, Halifax	do.
Street Works, Commercial-street, &c.	Caerphilly U.D.C.	A. O. Harper, Surveyor, Council Offices, Caerphilly	do.
Cast-iron Sewage Main	Rawmarsh U.D.C.	W. J. Petch, Council Offices, Rawmarsh	do.
*Sewerage Works	Lewisham Borough Council	Surveyor's Department, Town Hall, Catford, S.E.	do.
*Kerbing and Tarpaving	do.	do.	do.
Electric Crane	Poplar Borough Council	Boro Elec. Engr., Electricity Works, Glaucus-st., Bromley-by-Bow	Jan. 16
Purifiers, Roof, &c., at Gasworks	Burnley Corporation	J. F. Leather, Gas Engineer, Gas Works, Burnley	do.
Wrought Iron Fencing, &c., Jowett's Park	Leeds Corporation	City Engineer, Municipal Buildings, Leeds	do.
Boundary Wall, Grove Hall	Eastbourne Corporation	R. M. Gloyne, Civil Engineer, Town Hall	do.
Water Mains, &c., Cults	Aberdeen District Committee	Jenkins & Marr, Civil Engineers, Aberdeen	do.
Shop, &c., Thornton-road, Huddersfield	.....	J. Berry, Architect, 9, Queen-street, Huddersfield	do.
Shop, Humberstone, near Grimsby	.....	Carter & Co., Market-hill, Cambridge	do.
Cast-iron Pipes, &c.	Ebbw Vale (Mon.) U.D.C.	T. Hughes, Council Offices, Ebbw Vale	do.
Bandstand, &c., North-street	Leeds Corporation	City Engineer, Municipal Buildings	do.
Paving Works, Ashton	Preston (Lancs) Corporation	Borough Surveyor, Town hall, Preston	Jan. 17
Additions to Shops, Salford	.....	L. C Evans, Town Hall, Salford	Jan. 18
Two Villas, Northland-road, Londonderry	.....	E. J. Toye, Architect, Strand, Londonderry	do.
Council Chamber, Offices, &c., Newport	Monmouth County Council	W. Tanner, Surveyor, Newport, Mon	do.
Granite Setts, &c.	Gourock (N.B.) Town Council	A. Duthie, Civil Engineer, Council Chambers, Gourock	do.
Thirty-two Houses, South Bank, Yorks	.....	O. O. Beadle, Redcar-road, South Bank	do.
Additions to St. Saviour's Church, Weston-super-Mare	Banbury Town Council	Wilde & Fry, Architects, Weston-super-Mare	Jan. 19
Hartshill Stone	.....	N. H. Dawson, Civil Engineer, Town Hall, Banbury	do.
Church, near Todmorden	London County Council	Borcham & Morton, Surveyors, 24, John-street, Sunderland	do.
*Fencing	Rotherham Corporation	Parks Department, 11, Regent-street, S.W.	Jan. 21
Cast-iron Socket Pipes	Accrington Corporation	Borough Surveyor, Council Hall, Rotherham	do.
Street Works	Bury (Lancs) Corporation	W. J. Newton, Civil Engineer, Town Hall, Accrington	do.
Retorts, Fire-clay, &c.	Mr. Boyd	H. Simmonds, Engineer, Gasworks, Bury	do.
Villa, Glasgow-road, Perth	Lewis District Committee	D. Smart, Architect, Perth	do.
Bridge Works, Stornoway, N.B.	Pioneer Mill Co., Ltd.	J. Fraser, Civil Engineer, Inverness	do.
Weaving Shed, Walsden	Essex County Council	J. Wood, Engineer, Bridge-street, Todmorden	do.
Road-making Plant, Ilford	Romford R.D.C.	Chief Surveyor, County Offices, Chelmsford	do.
*Laying-out, &c., of Cemetery at Upminster	Plymouth Corporation	E. M. Whitaker, Architect, 1, Gresham-buildings, Basinghall-st.	do.
*Rails, Fish Plates, &c.	Wandsworth Borough Council	Borough Engineer, Plymouth	do.
*Making-up Roads	Branksome (Dorset) U.D.C.	Council House, East Hill, Wandsworth	Jan. 22
Additions to Council Buildings	Motherwell (N.B.) Commissioners	S. J. Newman, Architect, 3, Tennyson-buildings, Branksome	do.
Road Metal	Tottenham U.D.C.	Burgh Surveyor, Town Hall, Motherwell	do.
*Sewers	Surbiton U.D.C.	Engineer, 712, High-road, Tottenham	do.
Public Mortuary, Road Works, &c	Lanchester Hospital Board	S. Mather, Civil Engineer, Ewell-road, Surbiton	Jan. 23
Additions to Hospital, Langley Park	Nelson (Lancs) Corporation	G. T. Wilson, Architect, 121, Durham-rd., Blackhill, Co. Durham	do.
Gas Purifying Plant, Brierfield	Lambeth Borough Council	A. Allan, Engineer, Gasworks, Nelson	Jan. 24
Jarrah Timber	.....	H. Edwards, Civil Engineer, Town Hall, Kennington-green, S.E.	do.
Hospital, Stobhill, Springburn	E. Sussex County Council	Thomson & Sandilands, Architects, Glasgow	Jan. 25
*Sessions Court, &c.	Admiralty	County Surveyor, County Hall, Lewes	do.
*Coast Guard Buildings at Dungeness	do.	See Advertisement	do.
*Coast Guard Buildings at St. Mawes, near Falmouth	Littlehampton U.D.C.	do.	do.
Waterworks, near Arundel, Sussex	.....	H. Howard, Engineer, Town Offices, Littlehampton	Jan. 26
Schools, Hall, &c., St. David's, Pembroke	Croydon County Council	D. E. Thomas, Architect, Haverfordwest	do.
*Gas Engines and Pumps	Dartford U.D.C.	Deputy Borough Engineers, Town Hall, Croydon	Jan. 29
Fire Station and Cottage	Southwick School Board	W. Harston, Surveyor, High-street, Dartford	do.
*Additions to Schools	Kingsbridge (Devon) School Bd.	See Advertisement	Jan. 30
Schools	Cuckfield R.D.C.	T. W. Latham, Architect, Kingsbridge	Jan. 31
*Isolation Hospital near Burgess Hill, Sussex	Edinburgh and Leith Commrs.	G. T. Hine, Architect, 35, Parliament-street, Westminster, S.W.	Feb. 4
Gasworks Plant, Granton	Watford Endowed Schools	W. R. Herring, Engineer, Gasworks, New-street, Edinburgh	Feb. 11
*Lecture Room	.....	C. P. Aynes, Architect, Burvale, Watford	No date
Church and School, Beeston-hill, Leeds		W. G. Smithson, Architect, 13, Bond-street, Leeds	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
Clerk of Works	Dorking R.D.C.	3*l.* 3*s.* per week	Jan. 16
*Clerk of Works	Bodmin Corporation	.....	Jan. 19
Assistant Surveyor	Taunton R.D.C.	170*l.* per annum	do.
*Engineering Assistant	Croydon County Council	.....	Jan. 23
*Sanitary Inspector	Woolwich Borough Council	104*l.* per annum	Jan. 28

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p.*—. *Contracts, pp.* iv. vi. viii. x. & xxi. *Public Appointments, pp.* xviii. xix. & xxi.

Clerks of Works Association (Carpenters' Hall).—Paper by Mr. Lewen Sharp. 7.30 p.m.

Bristol Society of Architects.—Mr. Frank Cowlin on "Building Contracts from a Contractor's Standpoint." 8 p.m.

TUESDAY, JANUARY 15.

Society of Arts (Applied Art Section).—Mr. Cyril Davenport, F.S.A., on "Cameos." 8 p.m.

Royal Institution.—Professor J. A. Ewing, M.A., on "Practical Mechanics (experimentally treated): First Principles and Modern Illustrations."—I. 3 p.m.

Institution of Civil Engineers.—Papers to be further discussed:—(1) "Glasgow Bridge," by Mr. B. H. Blyth, M.A. (2) "Railway Bridge over the Fitzroy River, at Rockhampton, Queensland," by Mr. W. J. Doak, B.E. (3) "The Niagara Falls and Clifton Steel Arch Bridge," by Mr. Leffert Lefferts Buck. Paper to be submitted for discussion:—"The Present Condition and Prospects of the Panama Canal Works," by Mr. J. T. Ford. 8 p.m.

WEDNESDAY, JANUARY 16.

Society of Arts.—Mr. H. Snowden Ward on "Photography of Natural Colours by the McDonough-Joly Process." 8 p.m.

St. Paul's Ecclesiological Society.—Paper by Mr. F. Herbert Mansford, entitled "Notes on City Churches." 7.30 p.m.

Builders' Foremen and Clerks of Works' Institution.—Annual meeting. 8 p.m.

British Archæological Association.—Dr. Fryer, M.A., on "Fonts in Cornwall." 8 p.m.

Institution of Civil Engineers.—Students' visit to the Ventilating, Warming, Drainage, and Lighting arrangements at the Houses of Parliament. Assemble at the Chancellor's Gate, Abingdon-street, Westminster, 2.30 p.m.

Edinburgh Architectural Association.—Professor G. Baldwin Brown on "Colour in Architecture." 8 p.m.

THURSDAY, JANUARY 17.

Society of Arts (Indian Section).—Dr. John W. Evans, D.Sc., on "Metalliferous Mining in India." 4.30 p.m.

London Institution.—Mr. E. Stuart Bruce, M.A. on "Modern Aeronautics," illustrated. 6 p.m

FRIDAY, JANUARY 18.

Architectural Association.—Mr. Edwin T. Hall o "Flats." 7.30 p.m.

Royal Institution.—Professor Dewar, M.A., on "Gases at the Beginning and End of the Century." 9 p.m.

Institution of Mechanical Engineers.—Fifty-fourth annual general meeting. Election of President and members of council. The first presentation by the Institution of the Willans Premium will be made to Captain H. Riall Sankey; and the prizes awarded by the council for the best two papers in the Graduates' Section will be presented to Mr. W. B. Cleverly and Mr. Brees van Homan. The adjourned discussion will be resumed upon the following paper, by Mr. H. A. Humphrey, on "Power-gas and Large Gas-engines for Central Stations," read at the December meeting. 8 p.m.

Architectural Association of Ireland (Technical Demonstrations).—Mr. Malcolm on "Limes, Lathing, Plastering, Cement," &c. (at Messrs. G. Rome & Co.'s, 22, Moss-street). 4.30 p.m.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.		
Hard Stocks	1 16 0	per 1,000	alongside, in river.
Rough Stocks and Grizzles	1 12 0	,,	,, ,,
Smooth Bright Facing Stocks..	2 18 0	,,	,, ,,
Shippers	2 6 0	,,	,, ,,
Flettons.....	1 10 6	,,	at railway dep't.
Red Wire Cuts ..	1 15 6	,,	,, ,,
Best Fareham Red	3 11 6	,,	,, ,,
Best Red pressed Ruabon Facing.	5 5 0	,,	,, ,,
Best Blue Pressed Staffordshire ..	4 7 0	,,	,, ,,
Do., Bullnose	4 12 0	,,	,, ,,
Best Stourbridge Fire Bricks	4 4 6	,,	,, ,,
GLAZED BRICKS.			
Best White and Ivory Glazed Stretchers.....	13 0 0	,,	,, ,,
Headers	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats	17 0 0	,,	,, ,,
Double Stretchers	19 0 0	,,	,, ,,
Double Headers..	16 0 0	,,	,, ,,
One Side and two Ends	19 0 0	,,	,, ,,
Two Sides and one End	20 0 0	,,	,, ,,
Splays, Chamfered, Squints	20 0 0	,,	,, ,,
Best Dipped Salt Glazed Stretchers and Headers ..	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats	14 0 0	,,	,, ,,
Double Stretchers	15 0 0	,,	,, ,,
Double Headers..	14 0 0	,,	,, ,,
One Side and two Ends	15 0 0	,,	,, ,,
Two Sides and one End	15 0 0	,,	,, ,,
Splays, Chamfered, Squints	14 0 0	,,	,, ,,
Seconds Quality White and Dipped Salt Glazed	2 0 0	,,	less than best.

	s. d.		
Thames and Pit Sand	8 0	per yard,	delivered.
Thames Ballast	6 9	,,	,,
Best Portland Cement	38 0	per ton	,,
Best Ground Blue Lias Lime..	25 0	,,	,,

NOTE.—The cement and lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s. 6d. per yard, delivered,
Stourbridge Fire-clay in sacks, 3as. 6d. per ton at rly. dpt.

STONE.

	s. d.		
Ancaster in blocks	2 0	per ft. cube,	deld. rly. depôt.
Bath ,, ...	1 7	,,	,,
Farleigh Down Bath ..	1 8	,,	,,
Beer in blocks	1 6½	,,	,,
Grinshill ,, ...	1 10	,,	,,
Brown Portland in blocks	2 2	,,	,,
Darley Dale in blocks..	2 1½	,,	,,
Red Corsehill ,,	2 5	,,	,,
Red Mansfield ,,	2 4½	,,	,,
Hard York in blocks ..	2 10	,,	,,
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	s. d. 2 8	per ft. super.	at rly. depôt.
,, ,, 6 in. Rubbed Ditto..	3 0	,,	,,
,, ,, 3 in. sawn both sides slabs (random sizes)	1 2	,,	,,
,, ,, 3 in. self-faced Ditto	0 9½	,,	,,

SLATES.

in. in.	£ s. d.		
20X10 best blue Bangor...	11 5 0	per 1000 of 1200 at ry. dep.	
,, best seconds ,,	10 15 0	,,	,,
16X 8 best ,,	6 2 6	,,	,,
20X10 best blue Portmadoc	10 18 0	,,	,,
16X 8 best blue Portmadoc	6 0 0	,,	,,
20X10 best Eureka unfading green.....	11 2 6	,,	,,
16X 8 ,, ,,	6 15 0	,,	,,
20X10 Permanent green	10 0 0	,,	,,
16X 8 ,, ,,	5 12 6	,,	,,

TILES.

	s. d.		
Best plain red roofing tiles..	41 6	per 1,000	at rly. depôt.
Hip and valley tiles....	3 7	per doz.	,, ,,
Best Broseley tiles	48 6	per 1,000	,, ,,
Hip and valley tiles....	4 0	per doz.	,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000	,, ,,
Do. ornamental Do.	60 0	,,	,, ,,
Hip tiles.....	4 0	per doz.	,, ,,
Valley tiles.....	3 9	,,	,, ,,
Best Red or Mottled Staffordshire Do. (Peakes) .	50 9	per 1.000	,, ,,
Hip tiles	4 1	per doz.	,, ,,
Valley tiles.....	3 8	,,	,, ,,

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9in. and 11 in.	16 10 0	18 0 0
Deals: best 3 by 9	14 10 0	15 10 0
Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in.....	12 10 0	13 10 0
Battens: best 2½ by 6 and 3 by 6 ..	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds.....	0 10 0	,, ,, ,,

PRICES CURRENT (*Continued*).

WOOD.

	At per load of 50 ft. £ s. d.	£ s. d.
Fir timber: Best middling Danzig or Memel (average specification)	4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Swedish balks.....	2 15 0	3 0 0
Pitch pine timber (35 ft. average)..	4 0 0	4 10 0

JOINERS' WOOD.	At per standard.	
White Sea: First yellow deals, 3 in. by 11 in.....	27 10 0	28 10 0
3 in. by 9 in.	24 0 0	25 0 0
Battens, 2½ in. and 3 in. by 7 in.	20 0 0	21 0 0
Second yellow deals, 3 in. by 11 in.	22 10 0	24 0 0
,, ,, 3 in. by 9 in.	20 0 0	21 0 0
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	18 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	16 10 0	18 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	25 0 0	26 0 0
Do. 3 in. by 9 in.	22 0 0	23 0 0
Battens.....	16 10 0	17 10 0
Second yellow deals, 3 in. by 11 in.....	18 10 0	20 0 0
Do. 3 in. by 9 in.	17 0 0	18 0 0
Battens.....	14 0 0	14 10 0
Third yellow deals, 3 in. by 11 in.....	15 0 0	16 10 0
Do. 3 in. by 9 in.	14 0 0	14 10 0
Battens.....	12 10 0	13 10 0
White Sea and Petersburg:—		
First white deals, 3 in. by 11 in..	15 10 0	16 10 0
,, ,, ,, 3 in. by 9 in. ..	14 0 0	15 0 0
Battens.....	12 10 0	13 10 0
Second white deals 3 in. by 11 in.	14 0 0	15 0 0
,, ,, ,, 3 in. by 9 in.	13 0 0	14 0 0
,, ,, battens	11 0 0	12 0 0
Pitch pine: deals.....	16 0 0	18 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—		
First, regular sizes	30 0 0	33 0 0
Broads (12 in. and up)	2 0 0	more.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—		
Planks, per ft. cube	0 3 6	0 4 6
Danzig and Stettin Oak Logs—		
Large, per ft. cube	0 2 6	0 2 8
Small ,, ,, ...	0 2 4	0 2 7
Wainscot Oak Logs, per ft. cube ..	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 8	0 0 9
¾ in. do. do.	0 0 7	- - -
Dry Mahogany—		
Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch.....	0 0 10	0 1 0
Teak, per load	16 0 0	20 0 0
American Whitewood Planks—		
Per ft. cube.....	0 2 3	0 3 0

JOISTS, GIRDERS, &c.

	In London, or delivered to Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	8 0 0	9 0 0
Compound Girders ,, ,,	9 10 0	10 15 0
Angles, Tees and Channels, ordinary sections	9 12 6	11 12 6
Flitch Plates	10 0 0	10 15 0
Cast Iron Columns and Stanchions, including ordinary patterns	8 5 0	10 0 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON.—		
Common Bars.....	9 15 0	- - -
Staffordshire Crown Bars, good merchant quality	10 5 0	10 10 0
Staffordshire "Marked Bars" ..	12 0 0	- - -
Mild Steel Bars.....	10 10 0	11 0 0
Hoop Iron, basis price.....	10 10 0	11 0 0
,, ,, galvanised	16 10 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.—		
Ordinary sizes to 20 g.	11 0 0	- - -
,, ,, to 24 g.	12 0 0	- - -
,, ,, to 26 g.	13 10 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality.—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.....	13 5 0	- - -
,, ,, 22 g. and 24 g.	14 5 0	- - -
,, ,, 26 g.....	16 0 0	- - -
Sheet Iron, galvanised, flat, best quality.—		
Ordinary sizes to 20 g.	17 10 0	- - -
,, ,, 22 g. and 24 g.	18 0 0	- - -
,, ,, 26 g.	19 10 0	- - -
Galvanised Corrugated Sheets.—		
Ordinary sizes, 6 ft. to 8 ft. 20 g.	13 10 0	- - -
,, ,, 22 g. and 24 g.	14 0 0	- - -
Cut nails, 3 in. to 6 in.....	11 10 0	- - -
(Under 3 in. usual trade extras.)		
LEAD—Sheet, English, 3 lbs. & up.	19 0 0	- - -
Pipe in coils	19 10 0	- - -
Soil Pipe..	22 10 0	- - -
ZINC—Sheet—		
Vieill6 Montagne ..... ton	26 0 0	- - -
Silesian.....	25 10 0	- - -
COPPER—		
Strong Sheet..... per lb.	0 1 1	- - -
Thin ..... ,,	0 1 3	- - -
Copper nails ..... ,,	0 1 3	- - -

PRICES CURRENT (*Continued*).

METALS.

	Per ton, in London. £ s. d.	£ s. d.
BRASS—		
Strong Sheet..... ,,	0 0 11	- - -
Thin ,, ... ,,	0 1 1	- - -
TIN—English Ingots ..... ,,	0 1 4½	- - -
SOLDER—Plumbers' ..... ,,	0 0 9	- - -
Tinmen's ..... ,,	0 0 9½	- - -
Blowpipe ..... ,,	0 0 10½	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d.	per ft. delivered.
,, fourths	2¾d.	,, ,,
21 oz. thirds	3½d.	,, ,,
,, ,, fourths.....	3d.	,, ,,
26 oz. thirds	4½d.	,, ,,
,, ,, fourths	4d.	,, ,,
32 oz. thirds	5½d.	,, ,,
,, ,, fourths	5d.	,, ,,
Fluted sheet, 15 oz.	3½d.	,, ,,
,, ,, 21 ,, ...	4¾d.	,, ,,
⅛ Hartley's Rolled Plate.....	3d.	,, ,,
3/16 ,, ,, ,, ...	3½d.	,, ,,
¼ ,, ,, ,, ...	4d.	,, ,,

OILS, &c.

	£ s. d.	
Raw Linseed Oil in pipes.....per gallon	0 2 10	
,, ,, ,, in barrels ..... ,,	0 2 11	
,, ,, ,, in drums ..... ,,	0 3 2	
Boiled ,, ,, in pipes..... ,,	0 3 2	
,, ,, ,, in barrels ..... ,,	0 3 2	
,, ,, ,, in drums ..... ,,	0 3 4	
Turpentine, in barrels ..... ,,	0 2 8	
,, in drums..... ,,	0 2 10	
Genuine Ground English White Lead ...per ton	27 0 0	
Red Lead, Dry..... ,,	24 10 0	
Best Linseed Oil Putty.....per cwt.	0 9 0	
Stockholm Tar ..... per barrel	1 10 0	

VARNISHES, &c.

	per gallon £ s. d
Fine Elastic Copal Varnish for outside work ..	0 16 6
Best Elastic Copal Varnish for outside work ..	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 6
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work....	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 9 0
Berlin Black	0 15 0
Knotting	0 10 0
Best French and Brush Polish	0 10 0

TO CORRESPONDENTS.

B. H. & Co.—H. C.—W. S. (Amounts should have been stated.)

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays*. N.B.—We cannot publish tenders unless authenticated either by the architects or the building-owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is given, nor any list in which the lowest tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

BURY (Lancs).—For the execution of private street works for the Corporation. Mr. A. W. Bradley, C.E., Town Hall, Bury:—

Peter Booth, Breightmet, near Bolton
Samuel Fletcher, Heywood
Salisbury & Williamson, Blackpool
H. A. Sampson, Rochdale
Ratcliffe & Woodhead, Bury*
} Schedule of Prices.

CARLTON (Nottingham)—For the erection of house and stable, &c., for Mrs. Cumberland, Gedling-road, Carlton. Mr. Richard Whitbread, architect, Carlton, Nottingham:—

Cooper & Son	£1,075 0 0	G. T. Tegardine	£880 0 0
T. Cuthbert..	1,021 11 0	J. H. Harper,*	
J. G. Short ..	976 10 0	Carlton, Nottingham	840 0 0

COLNE (Lancs).—For extensions to market hall, &c., for the Town Council. Mr. T. H. Hartley, Borough Surveyor, Town Hall, Colne:—

J. & P. Lancaster, excavator, mason, and bricklayer, Calder-street, Colne £837 17 7

[*See also next page.*

CHESTER.—For the construction of sewers, Little Sutton, for the Wirral Rural District Council. Messrs. Beloe & Priest, MM.Inst.C.E., 13, Harrington-street, Liverpool :—

J. E Gabbutt	£10,700 7 10	J. Taylor	£7,450 0 0
Charles Burt.	9,920 0 0	Simon Johnson, Irlams-o'-th'-Heights, Manchester*.	6,657 0 0
W. Jowett ..	9,156 6 7		
Marr & Sons	8,684 0 0		
Philp & Eaton	8,110 13 4		
J. MacCabe.	8,100 0 0		

DUDLEY.—For sewering Netherton and Woodside districts for the Corporation. Mr. John Gammage, Borough Engineer, Town Hall, Dudley. Quantities by surveyor :—

Barnes & Co.	£24,707 0 0	McCarthy & Co.....	£21,927 0 0
S. Saunders	24,176 0 0	Hughes & Son	20,461 17 1
W. Westwood	23,025 13 11	Nowell & Sons	19,073 1 10
J. Owens....	22,165 0 0	G. Law, Kidderminster*	17,897 0 0
J. Mackay ..	21,945 2 4		

HIGH WYCOMBE.—For the construction of the Queen Victoria-road, for Earl Carrington. Messrs. J. Carter, Jonas & Sons, surveyors to Lord Carrington :—

S. Saunders ..	£2,660 0 0	R. H. Parkinson	£2,213 0 0
J. C. Trueman	2,650 0 0	Siddons & Freeman, Oundle* ..	2,183 0 0
H. Flint	2,446 1 9	H. Williams‡	2,123 3 7
F. Talbot	2,444 17 4	W. Wilson‡ ...	1,471 12 4
J. Macklin ..	2,304 8 9		
Lee & Son ..	2,237 3 1		
T. Adams....	2,248 0 0		
Lawrence & Thacker....	2,213 10 9		

‡ Withdrew.

HULL.—For the erection of school buildings, Merseystreet, for the Kingston-upon-Hull School Board. Messrs. Gelder & Kitchen, architects, Lowgate, Hull. Quantities by the architects :—

John Hoolton, South-street, Hull* £15,798

LEEDS.—For additions and alterations to Lynwood, Roundhay. Mr. A. E. Dixon, architect, 5, Park-lane, Leeds :—

Masonry and Bricklaying.—G. Nettleton & Sons, Roundhay* £210
Joinery.—Banks Mawson, Manor-st., Leeds* 189
Plumbing.—F. L. Armitage, 89, North-st., Leeds* 41
Slating.—Pickles Bros., Park-lane, Leeds*.. 26
Plastering.—Thos. Moore, North-st., Leeds* 35
Heating Apparatus. — Vincent Roberts, Skinner-lane, Leeds* 22

LYNTON (Devon).—For the erection of market house, &c., for the Urban District Council. Mr. W. H. Chowins, surveyor, Town Hall, Lynton :—

Jones Bros.	£649	Woolaway & Sons, Barnstaple*	£590

NEWMARKET.—For the erection of stabling at rear of Ye Cottage, Newmarket, for Mr. W. M. G. Singer. Messrs. Heaton & Gibb, arcbitects, Newmarket. Quantities by Messrs. W. H. Barber & Sons, 22, Buckingham-street, Adelphi, W.C. :—

Pamphilon & Sons	£700 0	D. Walkeley	£590 0
A. J. Bateman	642 0	J. G. Cowell, Soham, Cambs*	590 0
H. Holland	640 0	Robert Hunt ‡	525 0
Scales & Robins ..	634 10		
H. J. Linzell.....	609 0		

‡ Withdrawn.

PAISLEY (N.B.).—For causewaying Ralston-street, &c , for the Commissioners :—

Ralston-street.

A. A. R. Lang, Gourock*..... £220 8 6

Neilson-street.

A. A. R. Lang, Gourock*..... £1,081 9 8

READING.—For the execution of road works, Southcote-road West, for the Sanitary Authority. Mr. John Bowen, Borough Engineer, Town Hall, Reading :—

F. Talbot	£1,725 13 6	W. Reeves, Elm Park-road, Reading*	£1,187 11 0
Free & Sons ..	1,705 0 0		
E. Wilmot....	1,446 10 0		

TUNBRIDGE WELLS.—For the execution of street works, Rusthall High-street, for the Corporation :—

A. C. Soan ..	£2,101 11 8	J. Jarvis	£1,459 0 0
Lawrence & Thacker....	1,535 5 3	W. H. Wheeler	1,411 16 8
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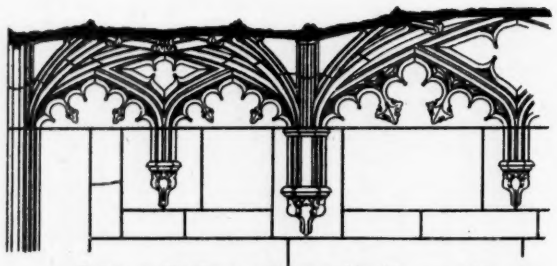

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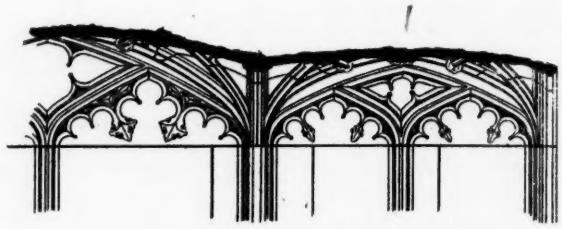

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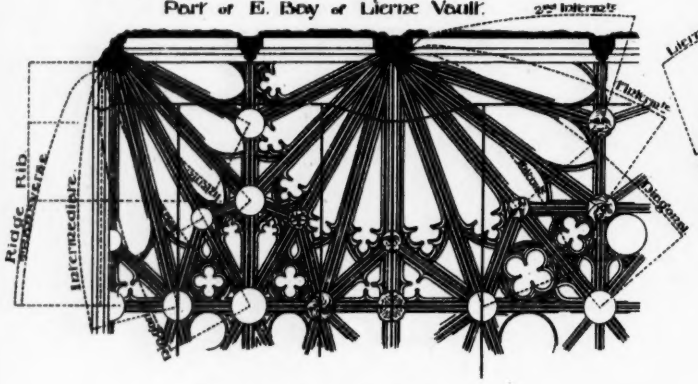
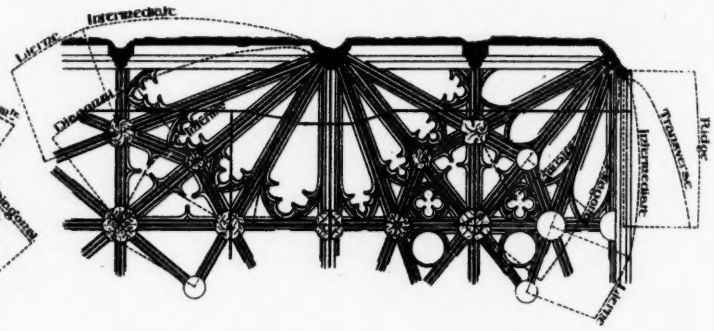


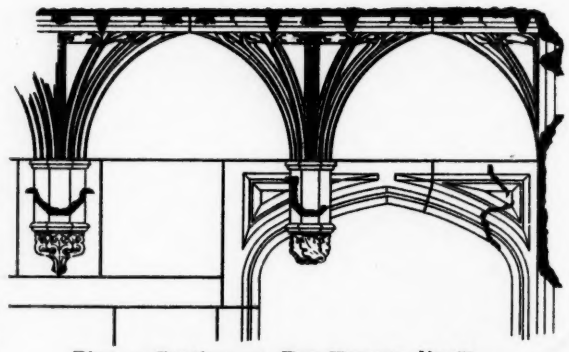


2 In. Details of Vaulting

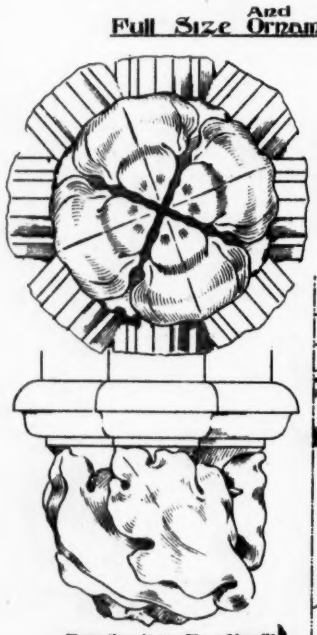
Inches 0 1 2 3 Feet

And

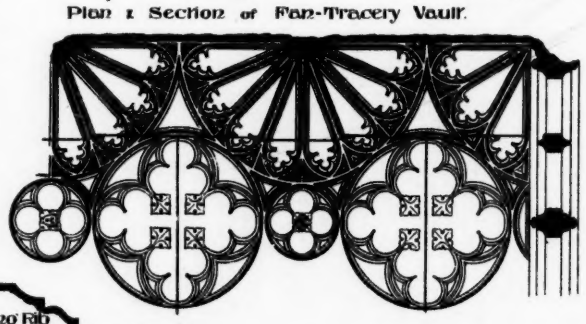
Full Size Ornam^ts & Mould^gs

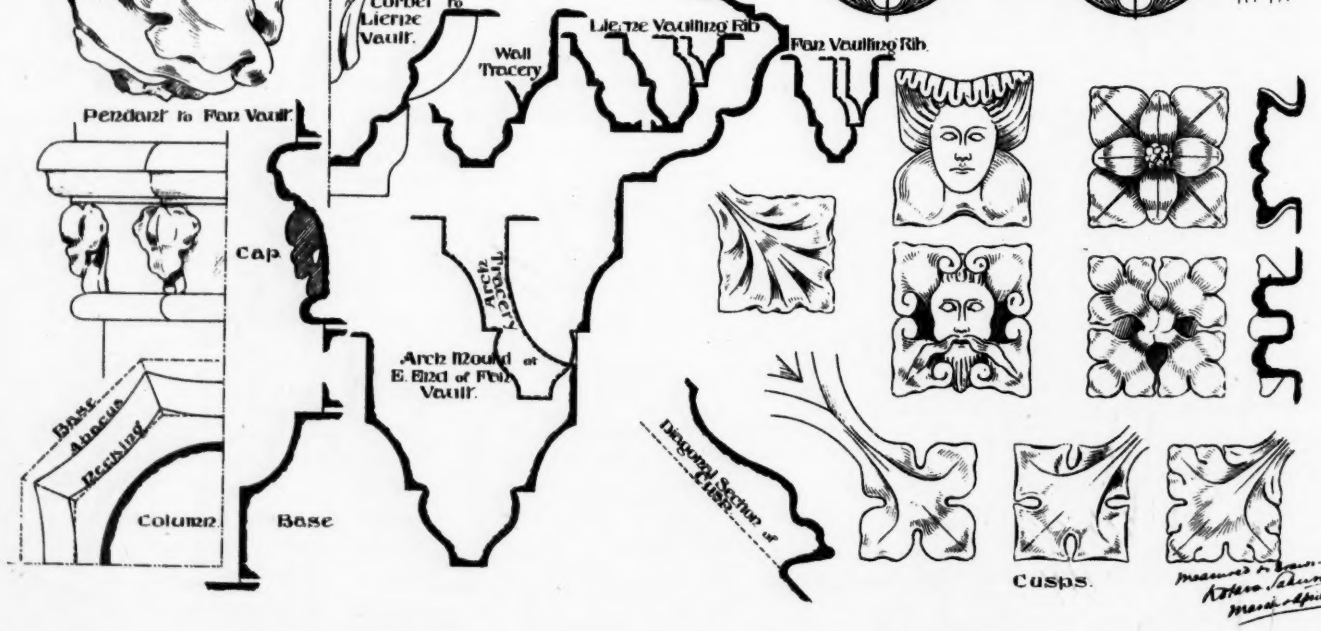


Plan & Section of Fan-Tracery Vault.



Bosses.





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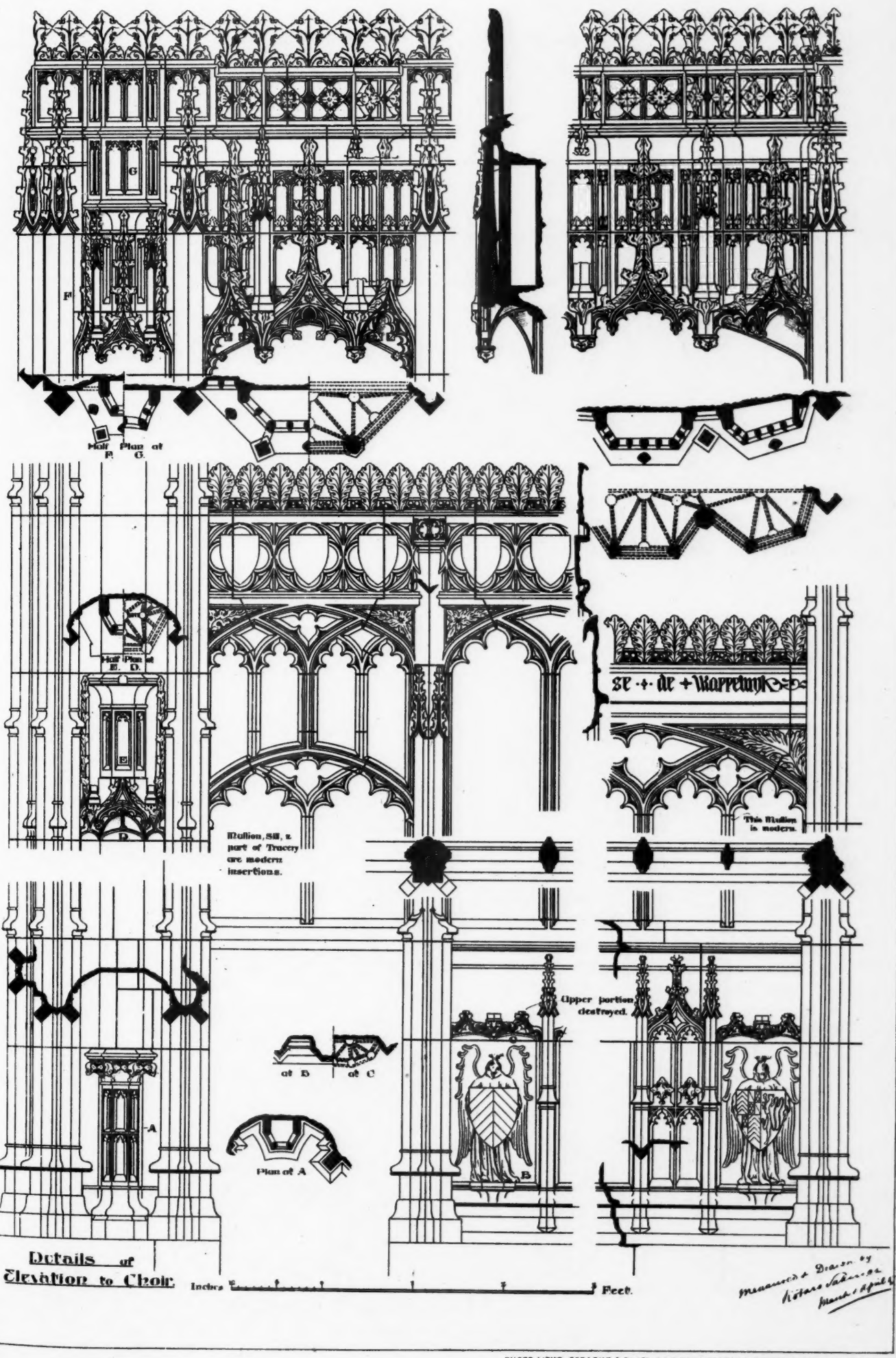

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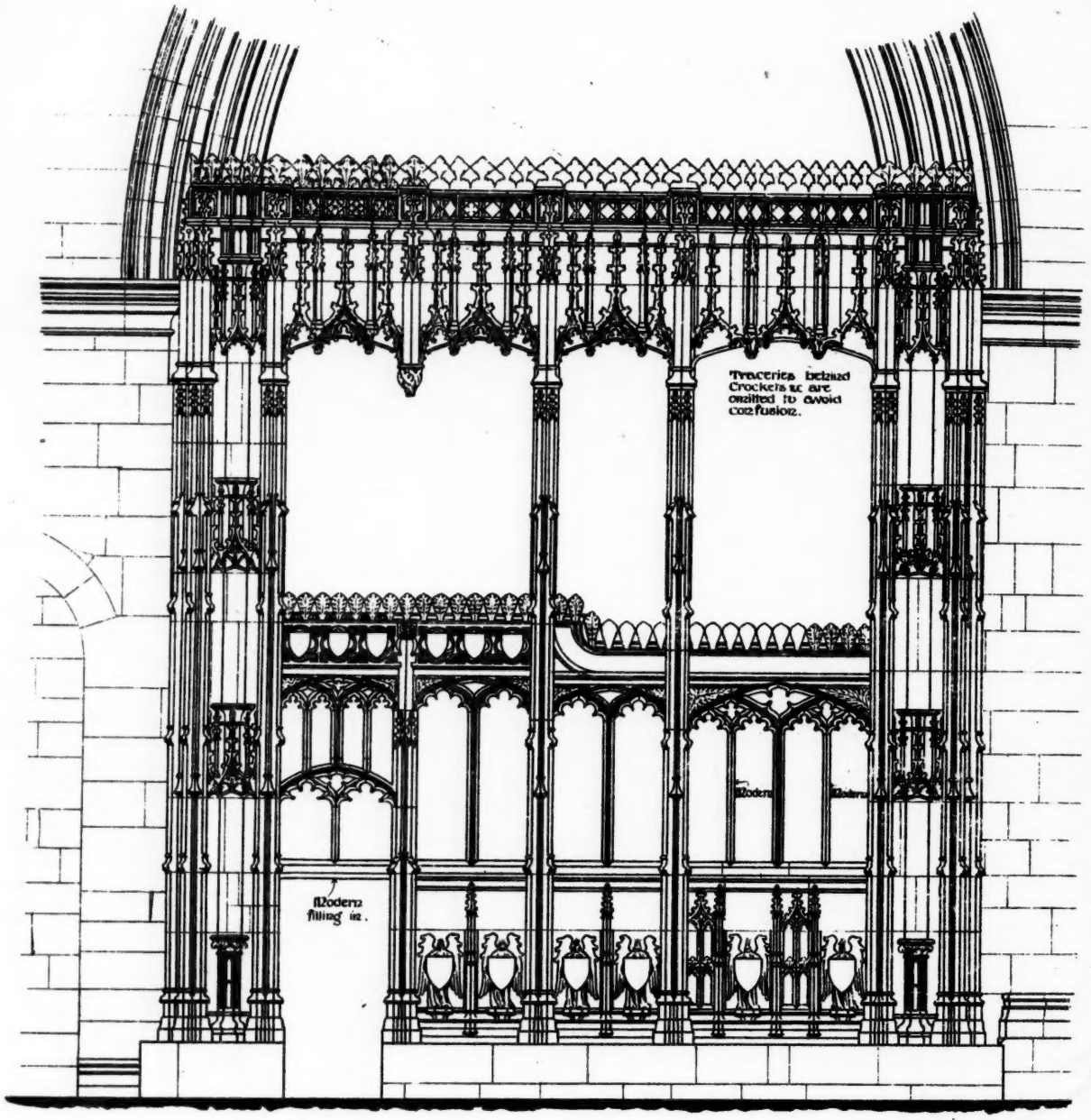
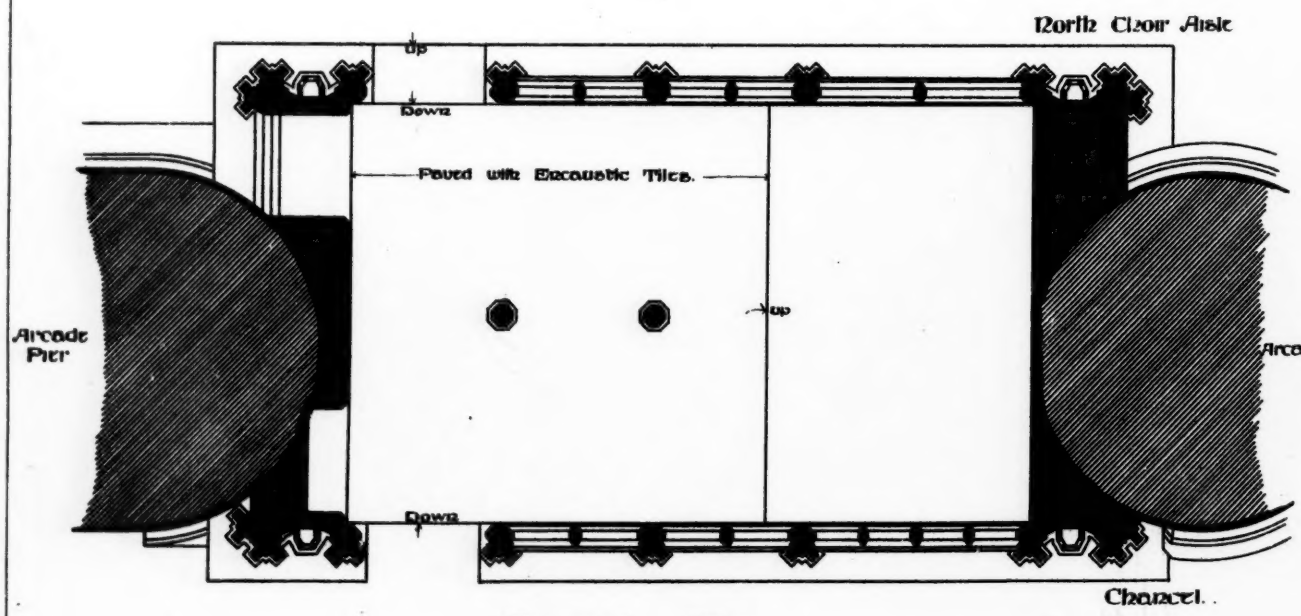


Elevation



Ground Plan.

Scale of 0 1 2 3 4 5 6 7 8

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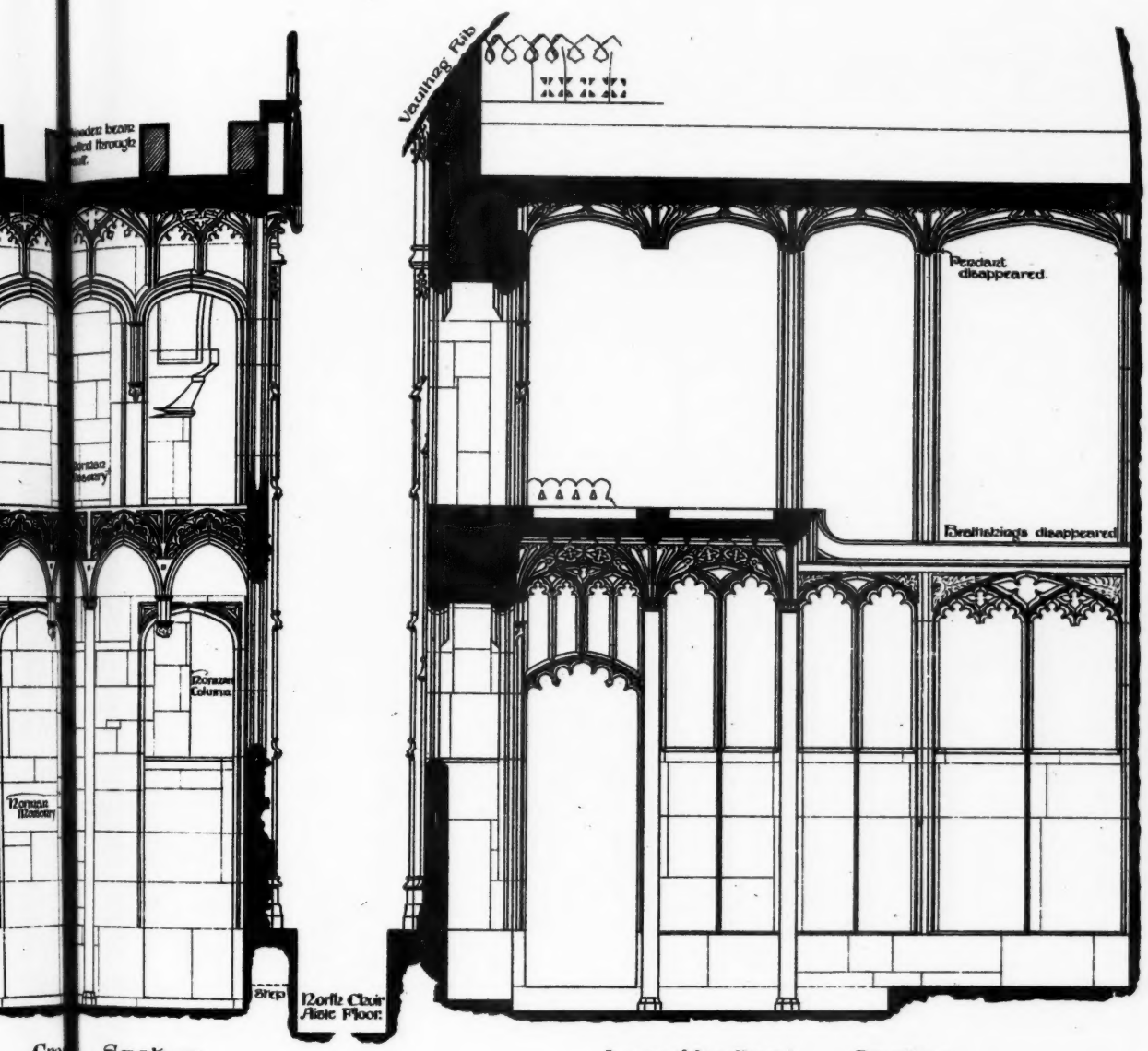
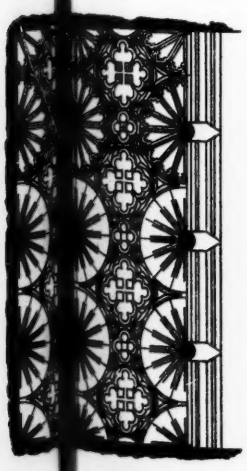
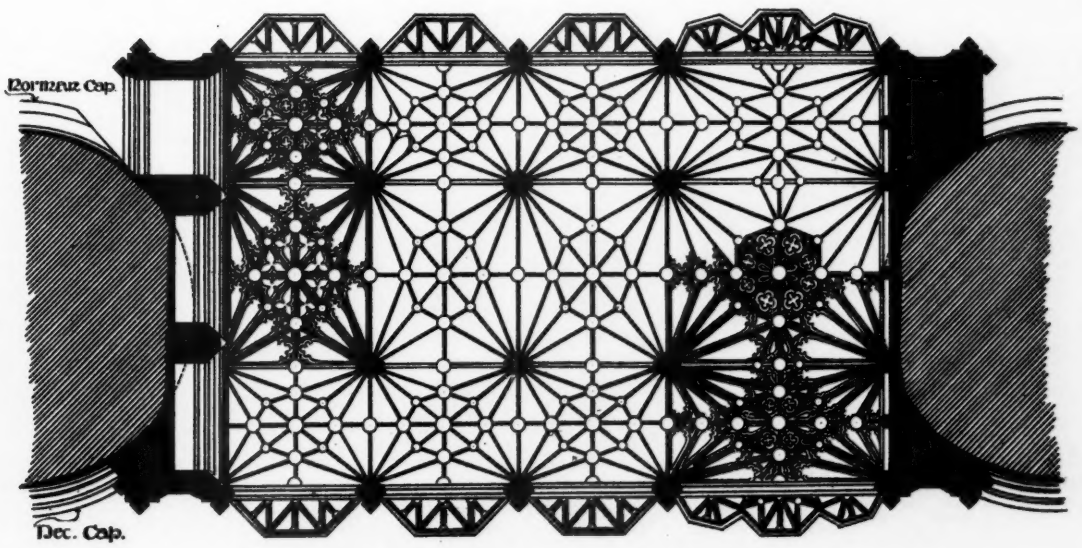


Cro Section

Longitudinal Section.





Low ulting Plan.

Upper Vaulting Plan

7 8 10 15 30 Feet.

Inscription over Mouldings

'Memento dne Isabelle
'le Despenser, Comitisse
'de Warrewyk, que huic
'Capellam fundavit in
'honore bte Marie Magdalene
'et obiit Londinijs apud
'Mites a° dñi MCCCXXXIX
'die Sctī Ilas Evangte.
'Et sepulta e. i. chōro i
'dextra patris sui: cuj.
'aīe. parcet Deus. Amēn'

Note – There is trace of colour decoration & painting in whole place.

Measured & Drawn by
Kotaro Sakurai
March – April 1891

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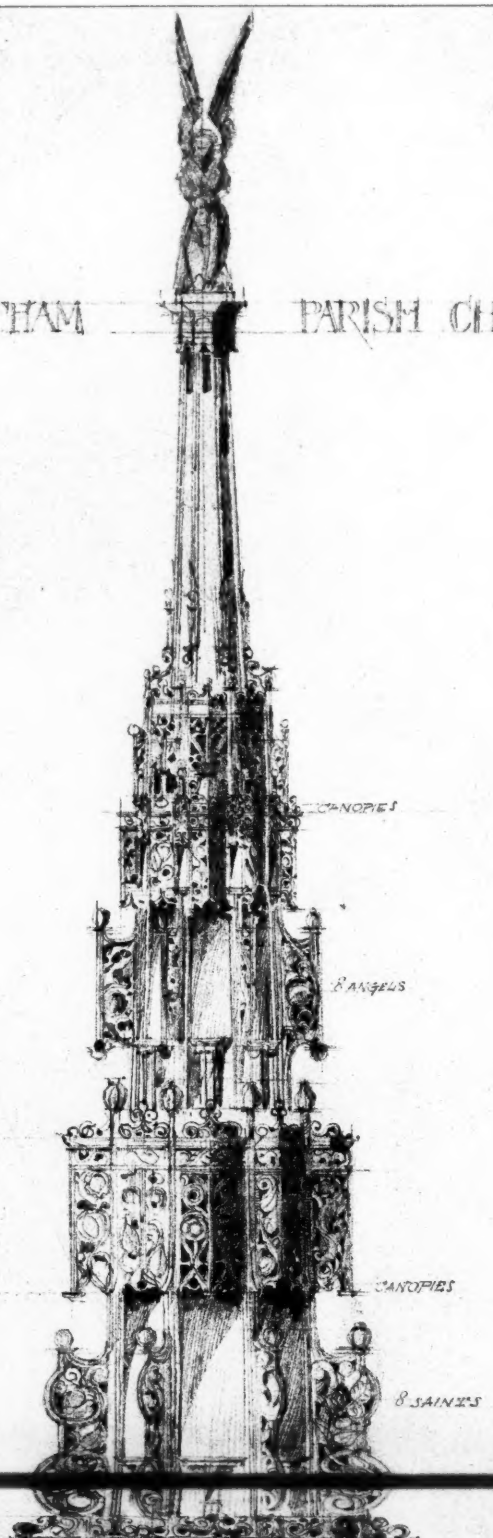
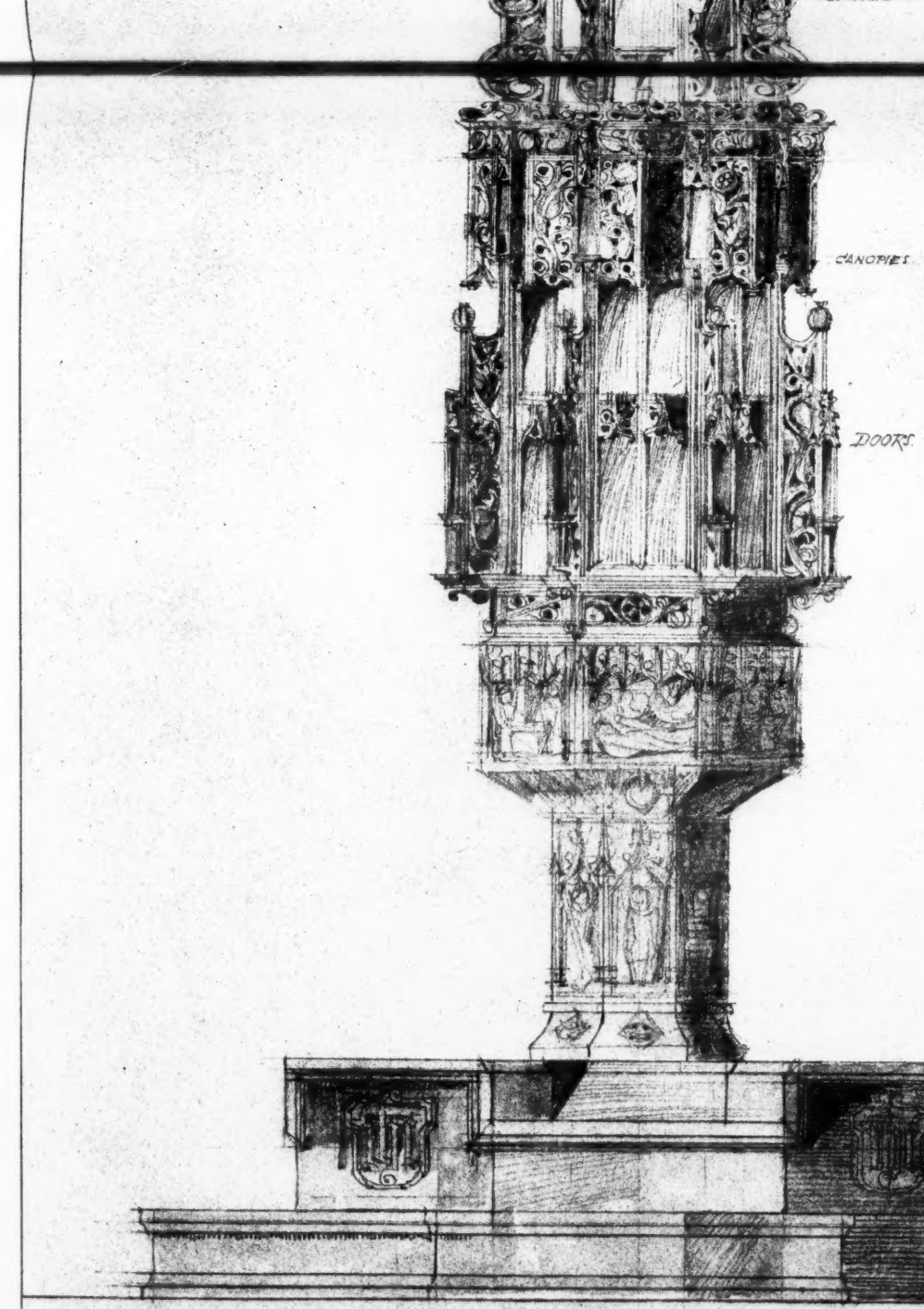
FONT COVER FOR GRANTHAM PARISH CHURCH





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